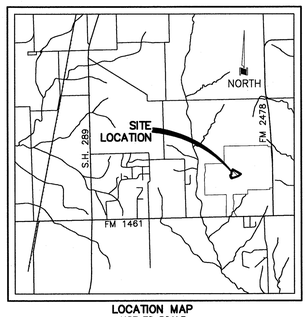
CONSTRUCTION PLANS

MUSTANG LAKES AMENITY CENTER

DECEMBER 2, 2015

CITY OF CELINA

COLLIN COUNTY, TEXAS



LOCATION MAP
NOT TO SCALE

OWNER

CELINA 682 PARTNERS, LP
8750 N. CENTRAL EXPRESSWAY SUITE 1735
DALLAS, TEXAS 75231
214-691-2556
CONTACT: MATT ALEXANDER P.E.

DEVELOPER

THE CAMBRIDGE COMPANIES, INC.
8750 N. CENTRAL EXPRESSWAY SUITE 1735
DALLAS, TEXAS 75231
214-691-2556
CONTACT: RANDY MCCUISTION P.E.

ENGINEER

DOWDEY, ANDERSON & ASSOCIATES, INC.
STATE REGISTRATION NUMBER F-399
5225 VILLAGE CREEK DRIVE SUITE 200
972-931-0694 PLANO, TEXAS 75093
CONTACT: CASEY ROSS P.E.

LANDSCAPE ARCHITECT

DAVID C. BALDWIN INC.
730 E. PARK BOULEVARD SUITE 100
PLANO, TEXAS 75074
972-509-1266
CONTACT: DAVE BALDWIN

THESE CONSTRUCTION PLANS WERE PREPARED UNDER THE RESPONSIBLE SUPERVISION OF J. CASEY ROSS, LICENSED PROFESSIONAL ENGINEER NO. 97272.

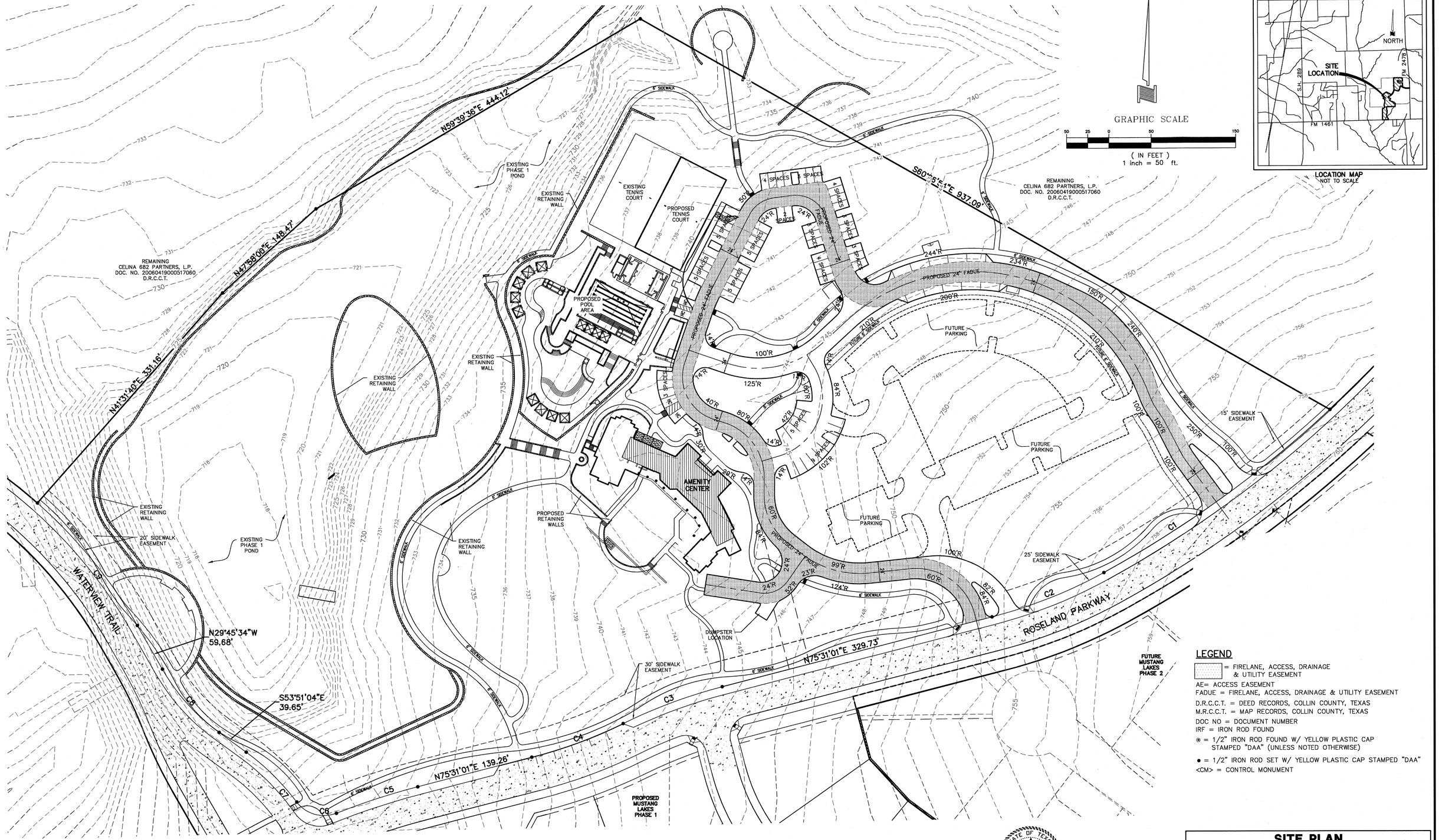
J. Casey Ross 2/2/16

STATE OF TEXAS
J. CASEY ROSS
97272
LICENSED
PROFESSIONAL ENGINEER

FOR CONSTRUCTION

INDEX	
Sheet	DESCRIPTION
	COVER SHEET
1	SITE PLAN
2	GRADING PLAN
3	STORM SEWER AND DRAINAGE PLAN
4	WATER AND SANITARY SEWER PLAN
5	DIMENSION CONTROL AND PAVING PLAN
(24)	CITY NOTES & STANDARD DETAILS

P-201511-02



NOTE:
ALL "X" LOTS SHALL BE OWNED AND MAINTAINED BY THE HOA.

LOT 3X SITE SUMMARY:

ZONING:	PD2014-57
EXISTING USE:	UNDEVELOPED
PROPOSED USE:	AMENITY CENTER
LOT AREA:	749,522 SF
BUILDING AREA:	10,074 SF
BUILDING HEIGHT:	32 FEET
PARKING PROVIDED:	77 SPACES
HANDICAP PROVIDED:	4 SPACES

LEGEND

= FIRELANE, ACCESS, DRAINAGE & UTILITY EASEMENT
AE= ACCESS EASEMENT
FADUE = FIRELANE, ACCESS, DRAINAGE & UTILITY EASEMENT
D.R.C.C.T. = DEED RECORDS, COLLIN COUNTY, TEXAS
M.R.C.C.T. = MAP RECORDS, COLLIN COUNTY, TEXAS
DOC NO = DOCUMENT NUMBER
IRF = IRON ROD FOUND
⊙ = 1/2" IRON ROD FOUND W/ YELLOW PLASTIC CAP STAMPED "DAA" (UNLESS NOTED OTHERWISE)
● = 1/2" IRON ROD SET W/ YELLOW PLASTIC CAP STAMPED "DAA"
<CM> = CONTROL MONUMENT

THESE CONSTRUCTION PLANS WERE PREPARED UNDER THE RESPONSIBLE SUPERVISION OF J. CASEY ROSS, LICENSED PROFESSIONAL ENGINEER NO. 97272.
J. Casey Ross 2/2/16

STATE OF TEXAS
J. CASEY ROSS
97272
LICENSED
PROFESSIONAL ENGINEER

NO.	DATE	BY	REVISION

SITE PLAN
MUSTANG LAKES AMENITY CENTER
CITY OF CELINA
COLLIN COUNTY, TEXAS

DOWDEY, ANDERSON & ASSOCIATES, INC.
5225 Village Creek Drive, Suite 200 Plano, Texas 75093 972-931-0694
STATE REGISTRATION NUMBER: F-399

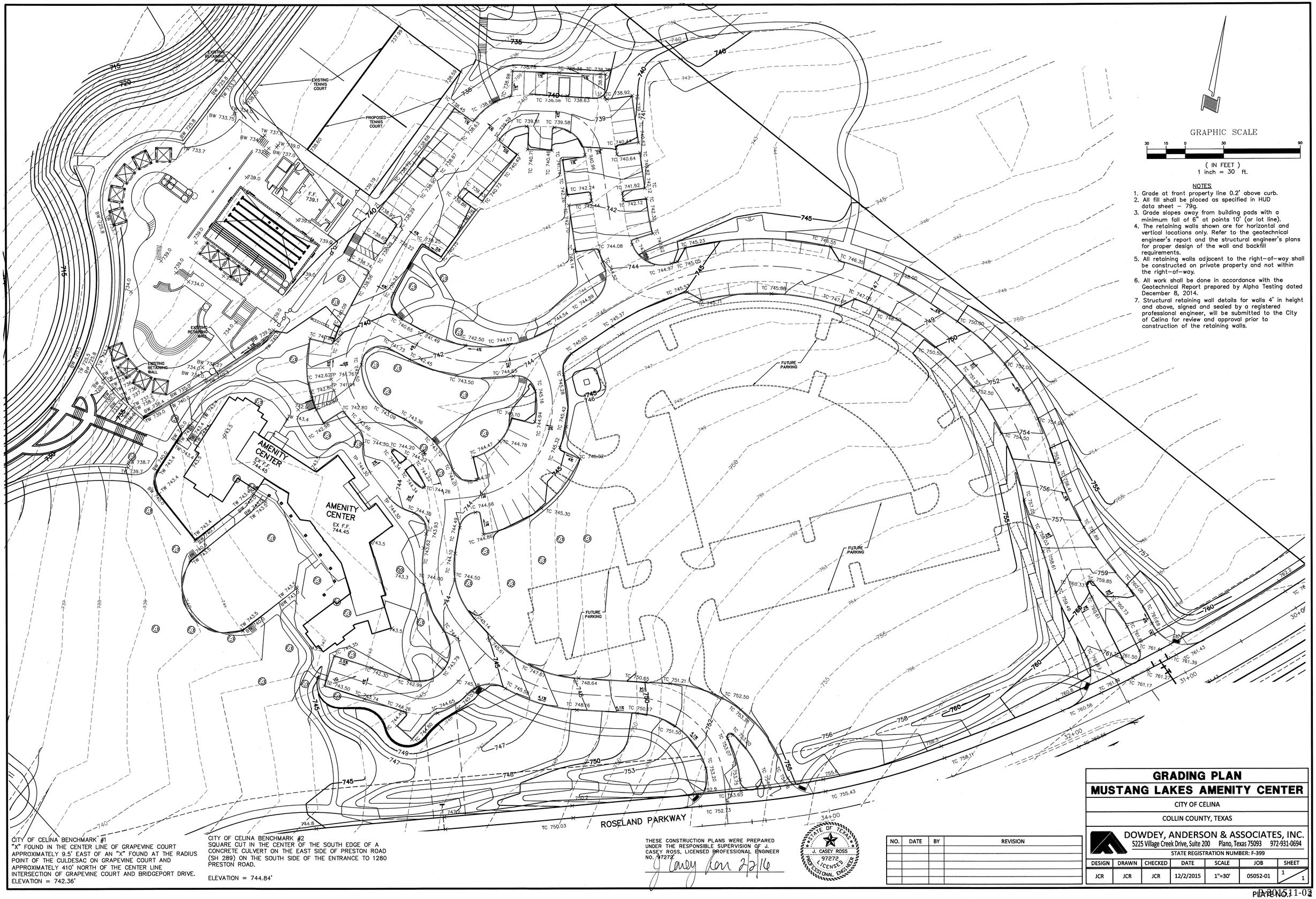
DESIGN	DRAWN	CHECKED	DATE	SCALE	JOB	SHEET
JCR	JCR	JCR	12/2/2015	1" = 50'	05052-01	1 / 1

REVISED:

PLAT NO.: D-201511-02

DOWDEY, ANDERSON & ASSOCIATES, INC.

Y:\05052\05052-01\AMENSP.dwg, Amenity Center CP, 2/2/2016 3:40:35 PM, jallen, Dowdey, Anderson & Associates, Inc., JA



GRAPHIC SCALE

30 15 0 30 90

(IN FEET)
1 inch = 30 ft.

NOTES

1. Grade at front property line 0.2' above curb.
2. All fill shall be placed as specified in HUD data sheet – 79g.
3. Grade slopes away from building pads with a minimum fall of 6" at points 10' (or lot line).
4. The retaining walls shown are for horizontal and vertical locations only. Refer to the geotechnical engineer's report and the structural engineer's plans for proper design of the wall and backfill requirements.
5. All retaining walls adjacent to the right–of–way shall be constructed on private property and not within the right–of–way.
6. All work shall be done in accordance with the Geotechnical Report prepared by Alpha Testing dated December 8, 2014.
7. Structural retaining wall details for walls 4' in height and above, signed and sealed by a registered professional engineer, will be submitted to the City of Celina for review and approval prior to construction of the retaining walls.

CITY OF CELINA BENCHMARK #1
"X" FOUND IN THE CENTER LINE OF GRAPEVINE COURT APPROXIMATELY 9.5' EAST OF AN "X" FOUND AT THE RADIUS POINT OF THE CULDESAC ON GRAPEVINE COURT AND APPROXIMATELY 410' NORTH OF THE CENTER LINE INTERSECTION OF GRAPEVINE COURT AND BRIDGEPORT DRIVE.
ELEVATION = 742.36'

CITY OF CELINA BENCHMARK #2
SQUARE CUT IN THE CENTER OF THE SOUTH EDGE OF A CONCRETE CULVERT ON THE EAST SIDE OF PRESTON ROAD (SH 289) ON THE SOUTH SIDE OF THE ENTRANCE TO 1280 PRESTON ROAD.

ELEVATION = 744.84'

THESE CONSTRUCTION PLANS WERE PREPARED UNDER THE RESPONSIBLE SUPERVISION OF J. CASEY ROSS, LICENSED PROFESSIONAL ENGINEER NO. 97272.

J. Casey Ross 2/2/16

STATE OF TEXAS
J. CASEY ROSS
97272
LICENSED
PROFESSIONAL ENGINEER

NO.	DATE	BY	REVISION

GRADING PLAN
MUSTANG LAKES AMENITY CENTER

CITY OF CELINA

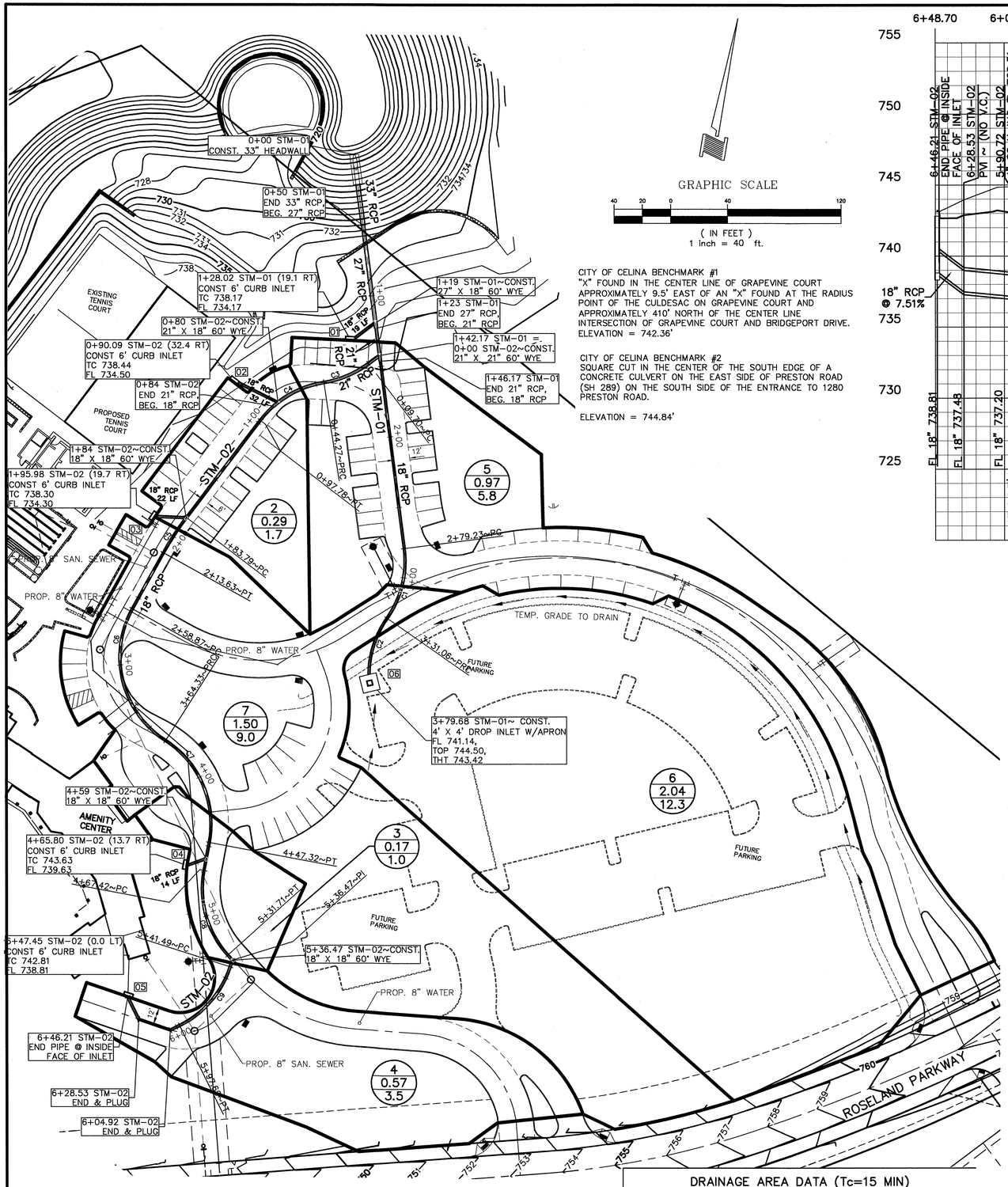
COLLIN COUNTY, TEXAS

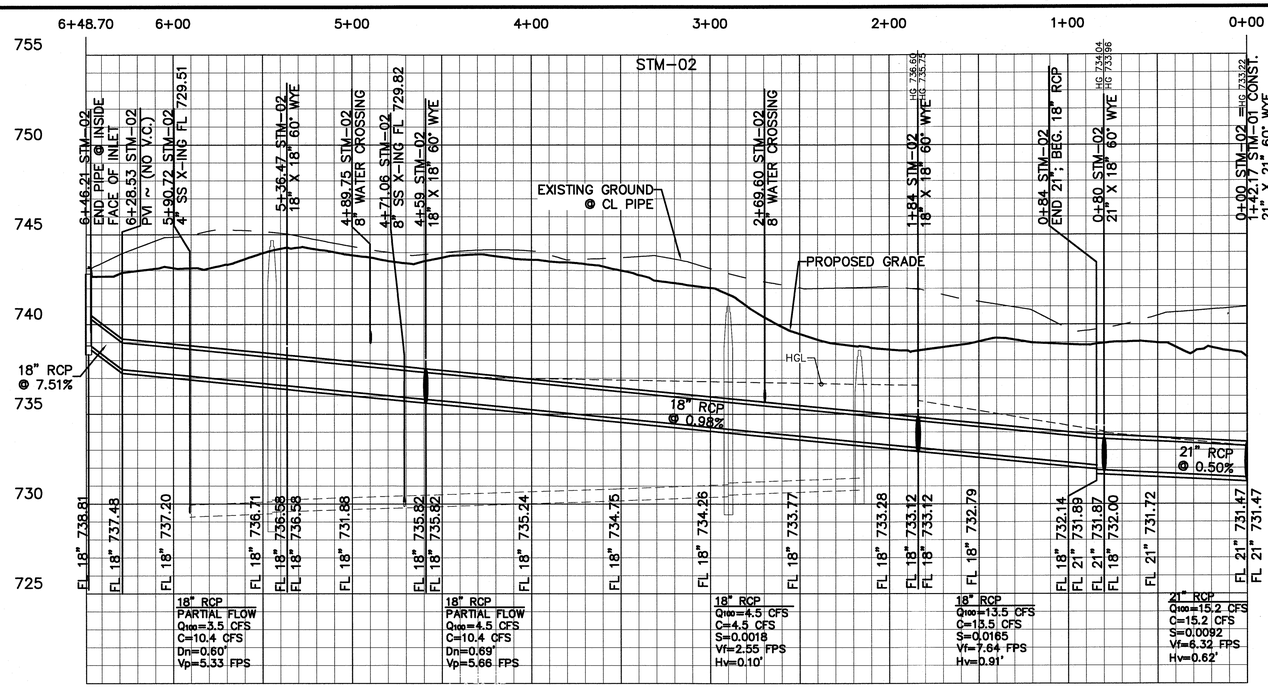
DOWDEY, ANDERSON & ASSOCIATES, INC.
5225 Village Creek Drive, Suite 200 Plano, Texas 75093 972-931-0694
STATE REGISTRATION NUMBER: F-399

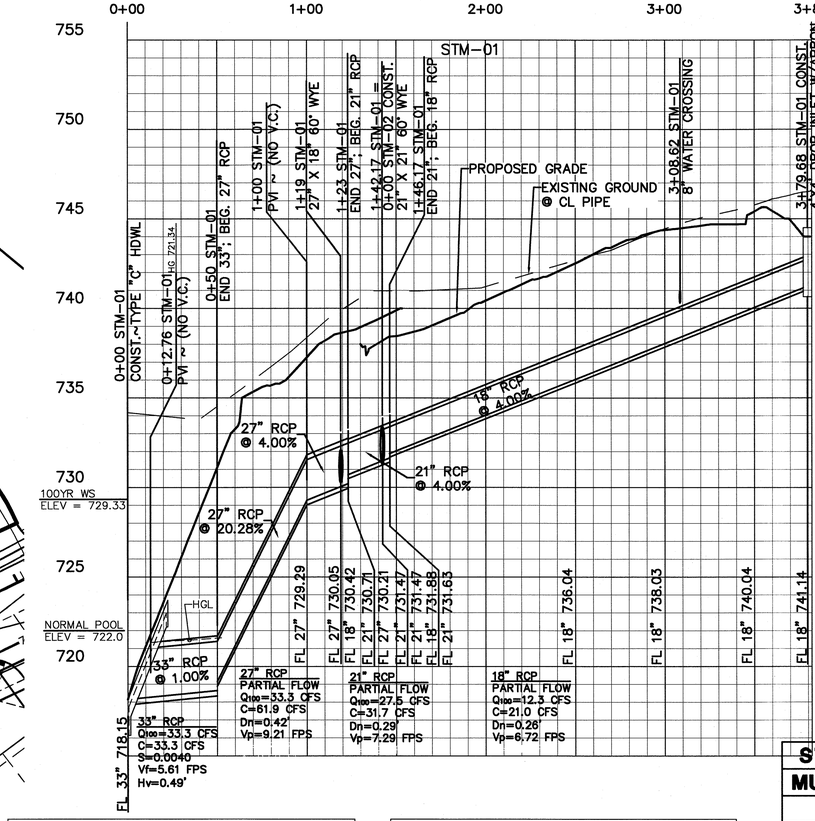
DESIGN	DRAWN	CHECKED	DATE	SCALE	JOB	SHEET
JCR	JCR	JCR	12/2/2015	1"=30'	05052-01	1 / 1

PLAT NO. D-201511-02

DOWDEY, ANDERSON & ASSOCIATES, INC.







Legend

- A-1 / 4.32 / 12.3 — Drainage Area / Acreage / Runoff (cfs)
- Flow Direction
- Drainage Divide
- 619 — Exist. Contour
- A1 — Proposed Inlet
- A — Block Number
- Existing Concrete

DRAINAGE AREA

Q = CIA (cfs)
C = 0.60
I_{100}= 7.52 in/hr
Tc = 15 min.

DRAINAGE AREA DATA (Tc=15 MIN)

AREA #	AREA	C	TC	I100	Q100	COMMENTS
2	0.29 AC	0.800	15 MIN	7.52 IN/HR	1.7 CFS	TO INLET 02
3	0.17 AC	0.800	15 MIN	7.52 IN/HR	1.0 CFS	TO INLET 04
4	0.57 AC	0.800	15 MIN	7.52 IN/HR	3.5 CFS	TO INLET 05
5	0.97 AC	0.800	15 MIN	7.52 IN/HR	5.8 CFS	TO INLET 01
6	2.04 AC	0.800	15 MIN	7.52 IN/HR	12.3 CFS	TO DROP INLET 06
7	1.50 AC	0.800	15 MIN	7.52 IN/HR	9.0 CFS	TO INLET 03

CURVE TABLE

CURVE	DELTA	RADIUS	TANGENT	LENGTH	CHORD
C1	42°25'30"	70.00'	27.17'	51.83'	S03°37'38"W 50.66'
C2	41°03'51"	70.00'	26.22'	50.17'	S04°18'27"W 49.10'
C3	28°17'44"	70.00'	17.64'	34.57'	S56°52'06"W 34.22'
C4	43°47'42"	70.00'	28.14'	53.51'	S49°07'08"W 52.21'
C5	8°18'06"	206.00'	14.95'	29.85'	S23°04'14"W 29.82'

CURVE TABLE

CURVE	DELTA	RADIUS	TANGENT	LENGTH	CHORD
C6	86°19'16"	70.00'	65.64'	105.46'	S24°14'27"E 95.77'
C7	67°55'50"	70.00'	47.15'	82.99'	S33°26'10"E 78.22'
C8	52°37'12"	70.00'	34.61'	64.29'	S25°46'51"E 62.05'
C9	45°59'44"	70.00'	29.71'	56.19'	S30°43'31"W 54.70'

THESE CONSTRUCTION PLANS WERE PREPARED UNDER THE RESPONSIBLE SUPERVISION OF J. CASEY ROSS, LICENSED PROFESSIONAL ENGINEER NO. 97272.

J. Casey Ross 2/2/16

STATE OF TEXAS · J. CASEY ROSS · 97272 · LICENSED · PROFESSIONAL ENGINEER

STM-01 & STM-02
STORM SEWER & DRAINAGE PLAN
MUSTANG LAKES AMENITY CENTER

CITY OF CELINA

COLLIN COUNTY, TEXAS

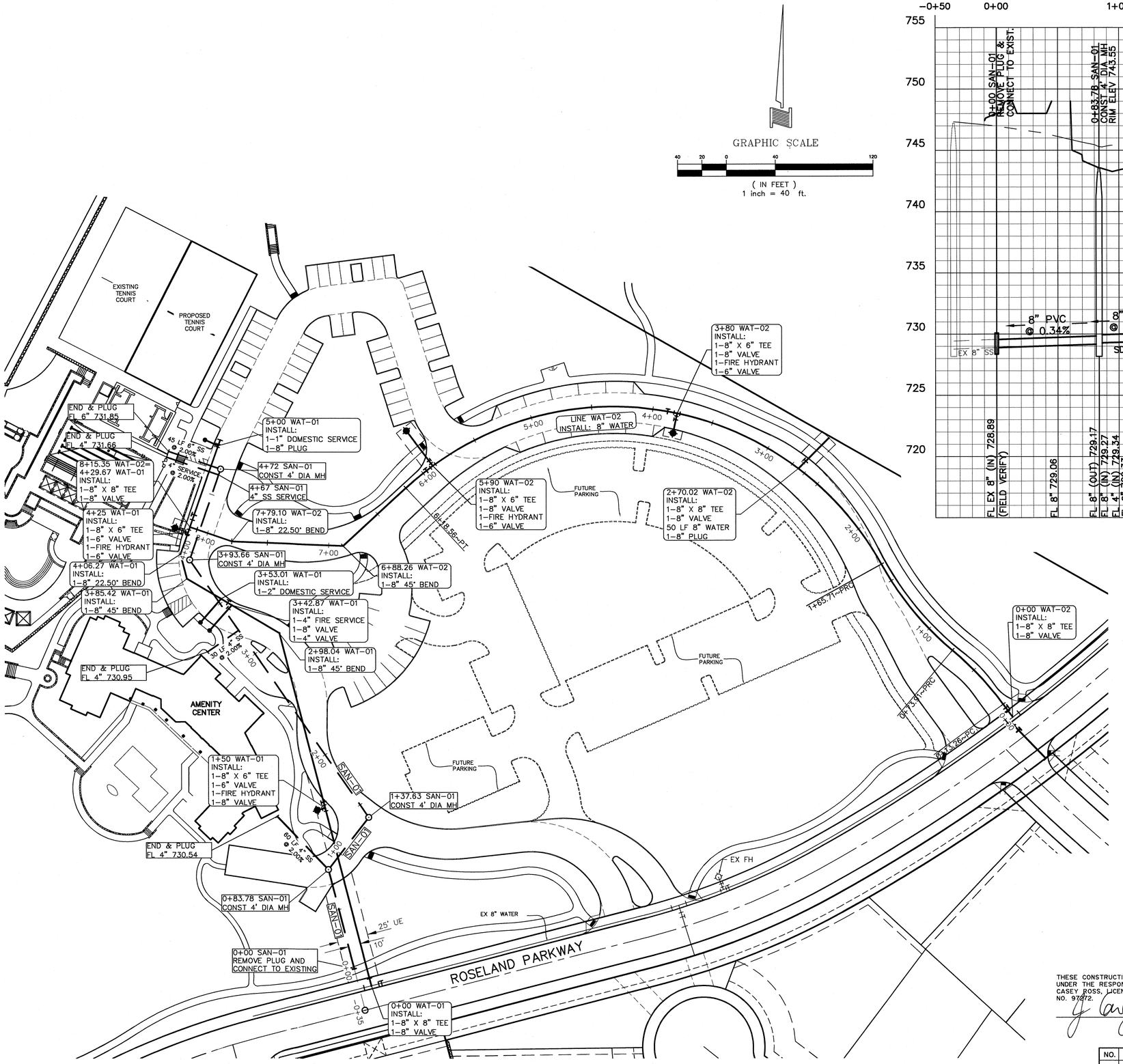
DOWDEY, ANDERSON & ASSOCIATES, INC.
5225 Village Creek Drive, Suite 200 Plano, Texas 75093 972-931-0694
STATE REGISTRATION NUMBER: F-399

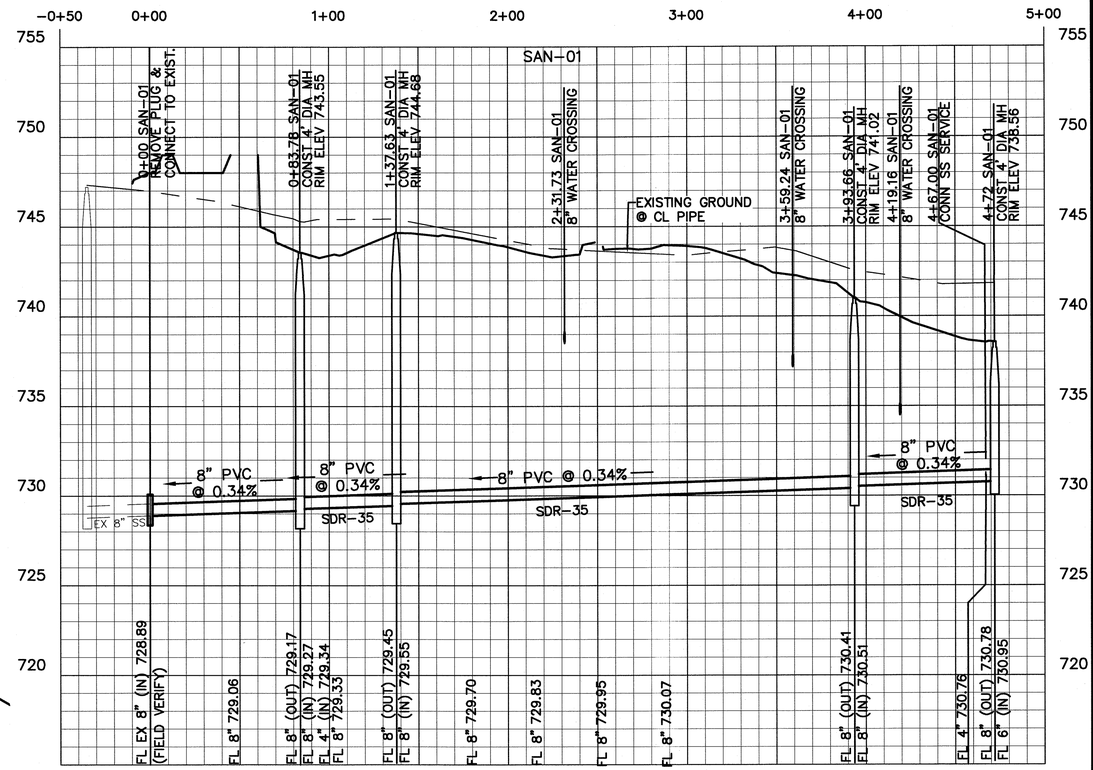
DESIGN	DRAWN	CHECKED	DATE	SCALE	JOB	SHEET
JBA	JBA	JCR	12/2/2015	H:1"=40' V:1"=4'	05052-01	1 of 1

PLAT NO. P-201511-02

DOWDEY, ANDERSON & ASSOCIATES, INC.

Y:\05052\05052-01\AMENSTM.dwg, STORM AMENITY CONST PLAN, 2/2/2016 3:33:06 PM, jaisen, Dowdey, Anderson & Associates, Inc., JA





Legend	
	Prop Water
	Prop Fire Hydrant
	Exist. Water
	Exist. Fire Hydrant
	Prop. San. Sewer
	Prop. Manhole
	Prop. Clean-out
	Exist. San. Sewer
	Exist. Manhole
	Exist. Clean-out
WLE	Water Line Easement
SSE	Sanitary Sewer Easement
DE	Drainage Easement

THESE CONSTRUCTION PLANS WERE PREPARED UNDER THE RESPONSIBLE SUPERVISION OF J. CASEY ROSS, LICENSED PROFESSIONAL ENGINEER NO. 97272.

J. Casey Ross 2/2/16

STATE OF TEXAS · J. CASEY ROSS · 97272 · LICENSED · PROFESSIONAL ENGINEER

NO.	DATE	BY	REVISION

WATER & SANITARY SEWER PLAN
MUSTANG LAKES AMENITY CENTER

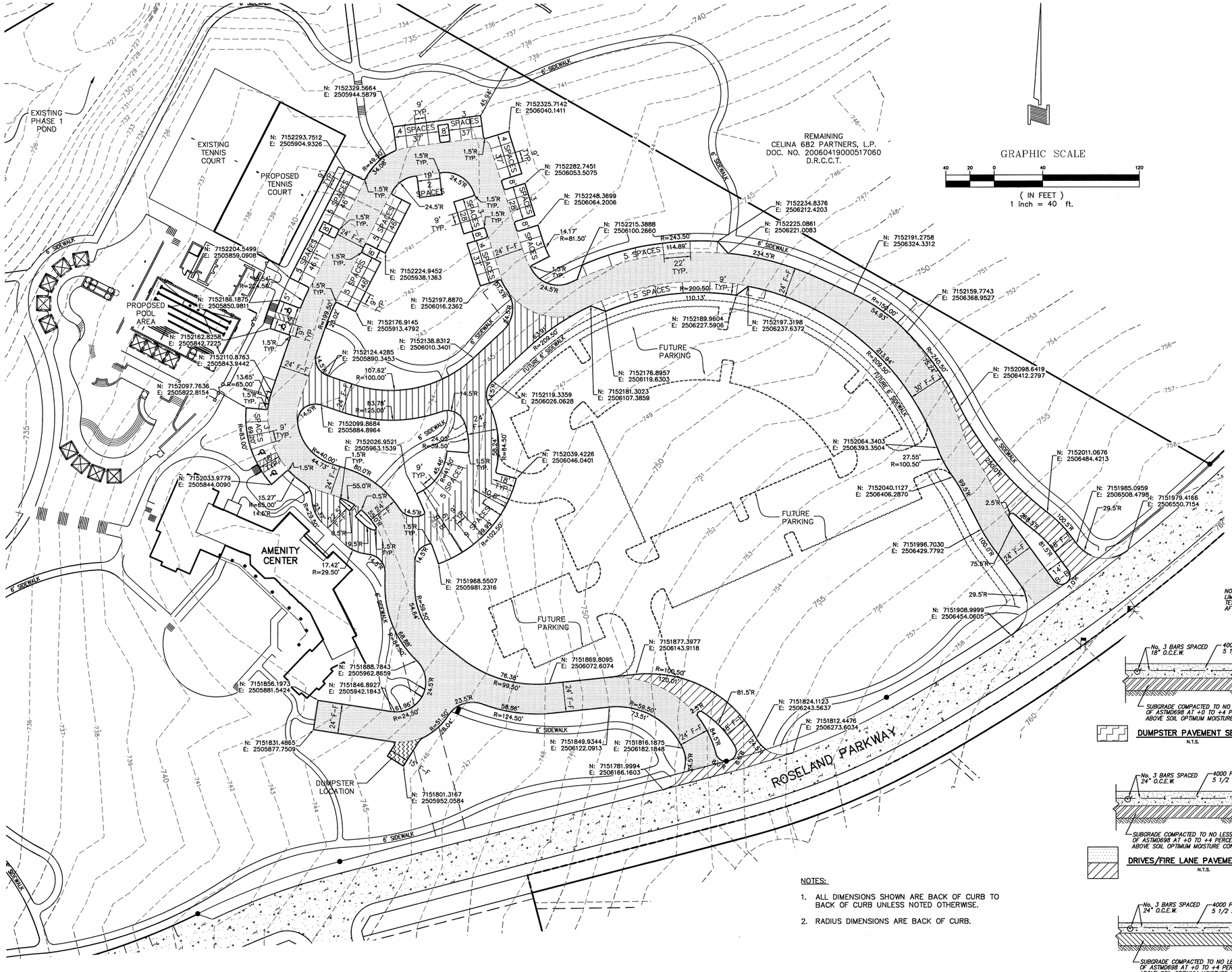
CITY OF CELINA

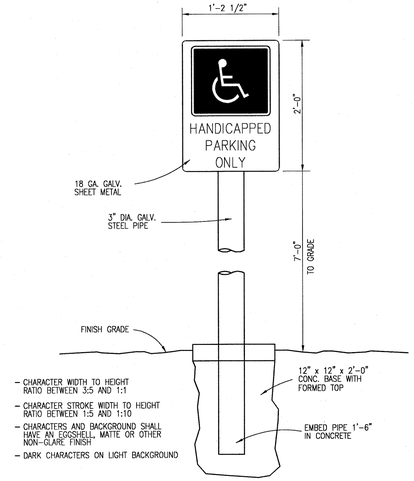
COLLIN COUNTY, TEXAS

DOWDEY, ANDERSON & ASSOCIATES, INC.
5225 Village Creek Drive, Suite 200 Plano, Texas 75093 972-931-0694
STATE REGISTRATION NUMBER: F-399

DESIGN	DRAWN	CHECKED	DATE	SCALE	JOB	SHEET
JCR	JCR	JCR	12/2/2015	H:1"=40' V:1"=4'	05052-01	1 / 1

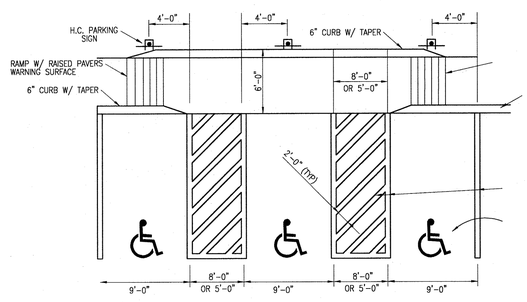
PLAT NO. P-2015-11-02





HANDICAP PARKING SIGN

NOT TO SCALE



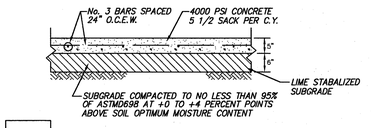
HANDICAP PARKING DETAIL

NOT TO SCALE

NOTE:
LIME SERIES AND SULFATE TESTS TO BE PERFORMED AFTER UTILITY INSTALLATION

DUMPSTER PAVEMENT SECTION
N.T.S.

DRIVES/FIRE LANE PAVEMENT SECTION
N.T.S.



LIGHT DUTY/PARKING PAVEMENT SECTION
N.T.S.

LEGEND

- HANDICAP PARKING SPACE
- FIRE LANE
- EXISTING CONCRETE

NOTES:

1. ALL DIMENSIONS SHOWN ARE BACK OF CURB TO BACK OF CURB UNLESS NOTED OTHERWISE.
2. RADIUS DIMENSIONS ARE BACK OF CURB.

THESE CONSTRUCTION PLANS WERE PREPARED UNDER THE RESPONSIBLE SUPERVISION OF J. CASEY ROSS, LICENSED PROFESSIONAL ENGINEER NO. 97272.

J. Casey Ross 2/2/16

STATE OF TEXAS
J. CASEY ROSS
97272
LICENSED
PROFESSIONAL ENGINEER

NO.	DATE	BY	REVISION

DIMENSION CONTROL AND PAVING PLAN
MUSTANG LAKES AMENITY CENTER

CITY OF CELINA

COLLIN COUNTY, TEXAS

DOWDEY, ANDERSON & ASSOCIATES, INC.
5225 Village Creek Drive, Suite 200 Plano, Texas 75093 972-931-0694
STATE REGISTRATION NUMBER: F-399

DESIGN	DRAWN	CHECKED	DATE	SCALE	JOB	SHEET
JBA	JBA	JCR	12/4/2015	1" = 40'	05052-01	1 / 1

REVISED:

PLATE NO. D-2015-11-03

GENERAL ITEMS

1. Prior to any construction the contractor shall be familiar with the Contract documents and specifications, the plans (including notes), the City of Celina Specifications and any other applicable standards or specifications relevant to he proper completion of the work specified. Failure on the part of the contractor to be familiar with all standards and specifications pertaining to this work shall in no way relieve the contractor of responsibility for performing the work in accordance with such applicable standards and specifications.
2. Prior to construction, contractor shall have in their possession all necessary permits, plans, licenses etc. contractor shall have at least one set of approved Engineering Plans and Specifications on site at all times.
3. All work shall conform to the City of Celina design manuals and standards. In the event an item is not covered in the plans or the City of Celina's design manuals and standards, the most current North central Texas council of Governments (NCTCOG) standard specifications for public works construction shall apply with concurring notifications to the City Engineer and Project Engineer. The City Engineer shall have the final decision on all construction materials, methods and procedures.
4. Representative of the Owner, Engineer, City, Geotechnical Engineer and reviewing authorities and agencies, will perform construction inspection. Unrestricted access shall be provided to them at all times. Contractor is responsible for understanding and scheduling required inspections. Test samples shall be collected and processed by certified technicians.
5. Work may not be backfilled or covered until the City and/or Inspector has inspected it.
6. All contractors must confine their activities to the work area. No encroachments onto developed or undeveloped areas will be allowed. Any damage resulting shall be Contractor's responsibility to repair.
7. Developer shall be responsible for obtaining all offsite easement prior to commencement of offsite and relevant onsite construction.
8. It will be the responsibility of each contractor to protect all existing public and private utilities throughout the construction of this project. Contractor shall contact the appropriate utility company companies for line locations prior to commencement of construction and shall assume full liability to those companies for any damages caused to their facilities.

DIGTESS	800-DIG-TESS
Atmos Energy	214-341-8900/972-881-4161
Oncor Electric Delivery	888-313-6862
AT & T	972-569-3013
City of Celina	972-382-2682
Time Warner Cable	213-320-5435
Grande Communications	972-410-0592
Coserve Electric & Gas	940-321-7800
Marilee SUD	972-382-3222
GCEC - Electric	903-821-3007
GCEC - Telecom	903-482-7274
Grosstex Energy	817-570-6753
Sudden Link	469-853-0486
Oneok	903-257-6594
Grande	972-410-0583
Town of Prosper	972-347-9969

9. Trench safety Design will be the responsibility of the Utility Contractor. Contractor shall submit a trench safety design approved by a professional engineer to the City's Engineering Inspector to review prior to the start of any underground utility construction.
10. Continuous access for mail service shall be provided during construction.
11. Construction may not begin earlier than 7:00am on weekdays nor continue after dark without permission from the City of Celina. Construction on Holidays and Saturdays must be approved two days in advance. A fee of $300.00 a day for working on Holidays and Saturdays will be assessed payable to the City before work is performed and work may not begin before 8:00am.
12. The owner will pay for first time material testing, any retesting will be at contractor's expense. Material testing shall be performed by an independent testing laboratory of Owner's choice.
13. The City shall select the location and depth of each soil density test unless directed otherwise.

- If any conflict arises between these general notes and any other notes found in the plans, the City's general notes shall take precedence.

WATER

1. Line and grade stakes for construction of all water and sanitary sewer lines and services shall be furnished by the following:
   a. Private Development : Developers Engineer, surveyors or their designated representative
   b. Capital improvement Projects: the contractor, unless specified otherwise in the contract
   Property lines and corners must be properly staked to verify the water line alignment. The city shall not be liable to improper alignment or delay of any kind caused by improper or inadequate surveys.
2. All water services and water meters shall be size on size. No reductions in water meter sizing are allowed for single services. All new water services shall be 1inch minimum HDPE poly pipe with 1inch minimum compression fitting angle stop and meter box, unless otherwise indicated on the plans. Curb stops will be located within the meter box and facing toward the lot.
3. A 7 feet riser (Ford 40 series re-setter) shall be used for meter installation. Bull head water services are not allowed.
4. An external angle ball valve with protective box shall be provided to all turn on's and offs to prevent unnecessary tampering with meter box.
5. Meters three inches (3") and bigger are required to be in vaults. There will be no rising stem valves in vaults and blocking on valves shall be concrete. Metallic blockings are not allowed.
6. Lines sixteen inches (16") and smaller shall have a minimum cover of four feet (4'). Lines larger than sixteen inches (16") shall have a minimum cover of six feet (6').
7. Water mains shall have a minimum separation distance of nine feet (9') in all directions from wastewater collection facilities. Separation distances shall be measured from the outside surface of each of the respective facilities.
8. PVC water mains from four inches (4") to eight inches (8") in diameter shall be AWWA C900 DR14. PVC water mains twelve inches (12") in diameter shall be AWWA C900 DR18. PVC water mains sixteen inches (16") in diameter and greater shall be AWWA C905 DR18.
9. Water mains crossing other utilities such as gas lines shall be PVC, otherwise pipe shall have a cathode protection.
10. Ductile iron water mains sixteen inches (16") in diameter and larger shall be in accordance with ANSI/AWWA C151/A21.50 with a minimum pressure class of 150 psi. It shall be the Engineer's responsibility to determine whether a higher pressure class is required. All ductile iron pipes shall be epoxy coated inside and out. Coatings must conform to American National Standards Institute/National Sanitation Foundation (ANSI/NSF) Standard 61 and must be certified by an organization accredited by ANSI.
11. All fittings shall be ductile iron complete with epoxy coating conforming to American National Standards Institute/National Sanitation Foundation (ANSI/NSF) Standard 61 or stainless steel, having mechanical restraints and thrust blocking.

FIRE HYDRANTS

1. Fire hydrants shall be placed a minimum of 2feet but no greater than 6 feet from center of the hydrant to the back of curb centered on a 2 feet thick 30 inches x 30inches concrete pad extended all the way to the back of curb.
2. A 5inches Knox Storz Guard adapter with 4.5 inches National Standard Thread and locking cap is required on all fire hydrants.
3. No fire hydrant shall be installed within the radius point of an intersection.
4. All fire hydrants shall be painted silver and the bonnet painted according to the following:
   a. Hydrants having a rated capacity greater than 1500gpm at 20psi shall be painted light blue.
   b. Hydrants with capacities 1000 to 1500 gpm shall be painted green.
   c. Hydrants with capacities 500 to 1000gpm shall be painted orange
   d. Hydrants with capacities of less 500gpm shall be painted red.
   e. Out of service hydrants and hydrants strictly for flushing shall be painted black.

SANITARY SEWER

1. Line and grade stakes for construction of all water and sanitary sewer lines and services shall be furnished by the following:
   a. Private Development : Developers Engineer, surveyors or their designated representative
   b. Capital improvement Projects: the contractor, unless specified otherwise in the contract
   Property lines and corners must be properly staked to verify the water line alignment. The city shall not be liable to improper alignment or delay of any kind caused by improper or inadequate surveys.
2. Minimum cover for wastewater main shall be four feet (4'). In general, the minimum depth for a wastewater main to serve a given residential property with a four inch (4") lateral shall be three feet (3') plus 2% times the length of the house lateral (the distance from the wastewater main to the center of the house). Thus, for a house one hundred and thirty five feet (135') from the wastewater main, the depth would be ***three feet (3') plus 2% x 135' = 3.0 + 2.7 = 5***.7'. The depth of the flow line of the wastewater main should then be at least ***5.7 feet*** below the elevation of the ground at the point where the service enters the house. Profiles of the ground line twenty feet (20') past the building line will be required to verify that this criterion is met.
3. Wastewater mains shall be placed on such a grade that the velocity is not less than two feet per second (2 fps) or more than ten feet per second (10 fps) at design peak flow.
4. Wastewater service laterals for single-family residential shall be a minimum of four inches (4") in diameter. Laterals shall be installed ten feet (10') downstream from the center of the lot and have a minimum distance of ten feet (10') separation from the water service.
5. Clean outs shall be provided on service laterals on the private side but shall not be provided at dead ends of sewer mains. Rather a manhole shall be located at the end of a wastewater main and the last two service lines shall be directed into the manhole.
6. All sanitary sewers and laterals shall be tested by pulling a mandrel, air pressure test and television video. The television video shall be provided to the City Inspector in a DVD format and shall be labeled accordingly for City's record.
7. Unless otherwise noted, in open spaces, the top of the

STORM SEWER

1. Recessed curb inlet shall be installed unless approved otherwise by the City.
2. Placing several curb inlets at a single location is only permitted in areas with steep grades (4% or greater) to prevent flooding and avoid exceeding street capacity in flatter reaches downstream.
3. No more than twenty feet (20') of inlet shall be constructed at one location along one curb line.
4. Curb inlets shall be placed upstream from right angle turns and street intersections.
5. An emergency overflow path shall be provided on the plans for sag locations. An emergency overflow path is the path the storm water will take if the drainage facility becomes clogged or ceases to function as designed. The emergency overflow path must be located within public right-of-way or within a drainage easement.
6. Curb inlet depth shall not be less than four and half feet (4.5') from top of curb for all public improvements. Manhole is to be placed at low end of inlet, two manholes are required on 15feet and 20feet inlets only if the inside height of the inlet is less than 4 feet.
7. Inlets are required at the low point of a super elevation to prevent flow across the roadway.
8. Multiple sag inlets shall be located no closer than three hundred feet (300').
9. Prior to final acceptance, all storm sewers shall be television filmed and cleared of any sediments and debris.

TRAFFIC CONTROL

1. When the normal function of the roadway is suspended through closure of any portion of the right -of -way, temporary construction work zone traffic control devices shall be installed to effectively guide the motoring public through the area. Consideration for road user safety, worker safety and the efficiency of road user flow shall be an integral element of every traffic control zone. All traffic control devices shall be in accordance with the latest TMUTCD and NCHRP 350. Devices must contain either type III Hi-intensity sheeting or Type IV reboundable Hi-intensity sheeting.
2. Any traffic control plans not included in the engineering plan set must be submitted for review a minimum of seven (7) calendar days prior to the anticipated lane closure. Construction activity shall not begin until the traffic control plan is approved by the City of Celina. Traffic control plans may be required on other roadways as determined by the traffic engineer or the designee. All traffic control plan must be reviewed by the traffic engineer or their designated representative
3. The contractor shall be responsible for maintaining all traffic control devices on and around the clock basis whether or not work is active. Any deficiencies shall be corrected by the contractor immediately, regardless of time of day.
4. Lane closure will not be permitted on arterial roadways before 9:00am or after 4:00pm. Violations may result in suspension of all work at the job site for a minimum of 48hours. The City reserves the right to deny a closure for a special event.
5. Lane closures will not be permitted on streets adjacent to private and/or public schools during the following hours:
   Elementary:7:15am -8:15am; 2:45pm-3:45pm
   Middle school:7:55am -9:00am; 3:30pm-4:40pm
   High school:6:45am -7:45am; 2:15pm-3:15pm
6. All temporary traffic control devices shall be removed as soon as practical when they are no longer needed. When work is suspended for short periods of time at the end of the workday, temporary traffic control devices that are no longer appropriate shall be removed or covered. The first violation will result in suspension of all work at the job site a minimum of 48hours.
7. Existing permanent signs removed by the contractor for construction purposes other than stop, yield and street name signs shall be returned to the City of Celina. All stop, yield and street name signs removed shall be temporarily erected in the appropriate locations (no less than 7 feet vertical from grade) until permanent signing can be installed . Any temporary stop or yield sign locations to be left in place overnight will require prior approval from the City Engineer.
8. Any permanent sign or existing pavement markings that conflict with the approved traffic control plan shall be covered, obliterated or removed as directed by the City Engineer.
9. Access must be maintained to all drives and side streets or as indicated in the traffic control plan.

PAVING

1. All mix shall be sealed by a professional engineer and submitted to the City Inspector 10 days before a scheduled pour. Mix designs are subject to approval by the City Engineer.
2. All concrete paving shall have a minimum compressive strength of 4000psi unless a higher compressive strength is specified.
3. All fill shall be compacted to 95% standard proctor density in a maximum of six inch (6") lifts or per the approved Geotechnical Engineers Report.
4. Subgrade shall extend 12 inches (12") minimum behind the curb, be a minimum of 6inches thick and shall be lime or cement stabilized as recommended in the geotechnical report. The amount of lime to be added shall be sufficient to achieve plasticity index not to exceed 12.
5. A subgrade density report must be presented to the City Inspector prior to paving. Densities are only valid for 72hours. Densities received on a Friday are valid until noon on the following Monday. Densities taken before inclement weather may be required to be retaken at the City Inspector's discretion. A minimum of four (4) test cylinders are required for breaks at 7days, 2 at 28days and the last cylinder being an extra.
6. All City streets are required to be paved with the used of an approved slip form paving machine with mechanical vibration. Hand pours are only allowed at intersection returns or other non-standard areas as approved by the City Inspector. Hand pours shall be vibrated by an approved hand vibrator.
7. Pavement for 6LD and 4LD thoroughfare shall be 8 inches thick whereas 2LC, 2L, 2LCB, 2LRN and alleys shall be 6inches thick.
8. Construction joints, cold joints and curb returns shall have fabric installed to allow for expansion.
9. Expansion joints shall be placed at a maximum every 400feet
10. All median noses shall be poured monolithically
11. All barrier free ramps shall comply with the current TDLR, ADA AND TXDOT regulations
12. All sidewalks shall be constructed per City of Celina standards and/or the latest version of the NCTCOG standards and specifications. Sidewalks on 6LD and 4LD thoroughfares shall be a minimum 6feet wide and those on 2LC, 2L, 2LCB, 2LRN and alleys shall be a minimum of 5feet wide.

RETAINING WALLS

1. Retaining walls greater than 2 feet in height must be an engineered design and require a separate permit issued through the building Inspections department.
2. Retaining walls (including the footing) shall not be constructed to encroach upon City Right-of-way, public easements or public utilities without the consent of the City Engineer.

TREE PRESERVATION

1. Prior to construction, the contractor or subcontractor shall construct and maintain a protective fence at the drip line of all protected existing trees, bushes, landscaping plants, sprinklers and lawns unless noted otherwise on the construction drawings. Any damage to existing trees, landscaping plants, sprinklers and lawns caused by construction shall be replaced to the satisfaction of the City of Celina at the Contractor's expense.
2. All protective measures shall be in place prior to commencement of any site or grading work and remain in place until all exterior work has been completed.
3. The City shall be contacted to approve the placement of the tree preservation fencing prior to beginning of site work on the property.
4. The following activities shall be prohibited within the limits of the primary root zone: material storage, equipment, cleaning/liquid disposal, no tree attachments of signs or wires and construction equipment/ vehicular traffic is prohibited.
5. Unless specifically allowed, no grade changes shall be allowed within the limits of the primary root zone of any protected tree unless the city approves adequate construction methods.
6. No trimming of trees may occur within the Tree Preservation fencing limits without prior consent of the City.

MATERIAL TESTING

1. Material testing shall be performed by an independent testing laboratory and paid for by the contractor. The following material tests shall be provided by the Contractor:
   a. Embankment - One soil density test shall be performed at each location for each 500 C.Y. of backfill placed.
   b. Pavement Sub grade - One gradation test (where lime stabilized) and one soil density test shall be performed for each 300 linear feet of pavement unless otherwise noted. Gradations must pass 100% through a 1 ¾" sieve and 60% through a #4 sieve.
   c. Utility Trench Backfill - One soil density test shall be performed at 300 feet intervals or as directed by the Inspector.
   d. Concrete Tests:
      (1) Compressive Strength - Four test cylinders shall be taken from a representative portion of the concrete being placed for every 150-cubic yards of concrete pavement placed, but in no case shall less than 2 sets of cylinders be taken from any one day's placement.)
      (2) Air, slump, and temperature tests shall be taken for every set of cylinders made. Concrete with a temperature above 95° F will be rejected.
      (3) Additional cylinders and/or tests may be required at the Inspector's discretion.
2. Water Testing:
   a. Water testing shall be scheduled 48-hours in advance and set up through the city inspector.
   b. Water testing fees are included in the 3% inspection fees.

EROSION CONTROL AND VEGETATION

1. Every soil disturbing activity shall have an accompanying Erosion Control Plan (ECP), and either Construction Site Notice (CSN) for those activities disturbing more than 1 but less than 5 acres or Notice of Intent (NOI) for those activities disturbing 5 or more acres. A copy of the appropriate CSN or NOI shall be provided to the City of Celina prior to issuance of a grading permit. The ECP shall be provided to City of Celina's Engineering Inspector prior to grading.
2. The CSN or NOI shall be posted in a location viewable to the public until construction is complete and Notice of Termination submitted. The storm water pollution prevention plan (SW3P) shall be readily available for review by Federal, State or local Officials.
3. No soil disturbing activities will occur prior to the SW3P, ECP and associated Best Management Practices (BMP) being fully implemented, and then inspected by the City's Engineering Inspector.
4. The contractor shall comply with the City of Celina's Storm Water Ordinance, the current NCTCOG iSWMTM Technical Manual for construction, the TPDES General construction permit TXR150000 and any other state and/or local regulations.
5. The contractor shall employ measures as necessary to prevent dirt, mud, and debris from being trucked off site. Any dirt, mud, debris trucked offsite shall be cleaned up by the contractor immediately.
6. The operator or his representative shall review the site weekly and after any major storm. Adjustments/repairs to the erosion control measures will be made as needed. The contractor shall notify the City's Engineering Inspector of adjustments/repairs such that the adjustments/repairs may be inspected and approved by the Inspector.
7. Along parkways and medians in the right-of-way, a four-foot strip of native sod shall be placed behind the curb on top of four (4) inches of topsoil. Contractor shall be responsible for any temporary irrigation or watering as needed. Areas adjacent to new residential lots, where the homebuilder will be disturbing this area, may be exempt from this requirement so long as adequate erosion control measures are installed and maintained behind the curb.
8. Contractor shall establish perennial vegetation on all other disturbed areas immediately upon completion of grading activities. An appropriate seed mix should be considered with respect to the season and the timing of final acceptance. A cool season seed mix should be used between September 15, and April 15. Final acceptance of a site shall be contingent upon perennial vegetation being fully established in all disturbed areas.
9. A completed NOT shall be submitted to the state and a copy of this NOT shall be provided to the City of Celina prior to final acceptance.

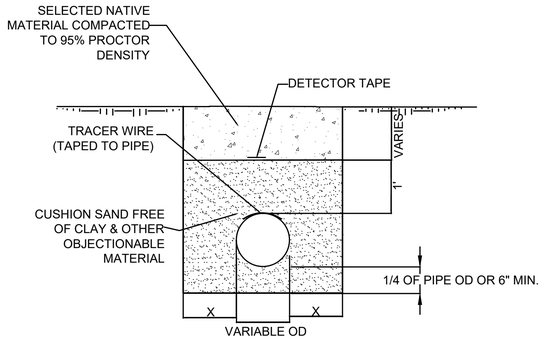
GRADING NOTES

1. Top soil stripping and replacement: Top soil stripping shall be incorporated into landscape areas outside overbuilt pads, in street parkways, medians, open space, earthen drainage ditches and swales for all subdivisions. A minimum of 4inches of topsoil shall be placed in advance of grassing operations. The grading operations shall accommodate topsoil to be placed in the designated areas. Stockpiled topsoil shall be protected from erosion with appropriate erosion control measures at all time, once the excess material has been placed and compacted the top soil shall be evenly redistributed on top of the placed fill before being re-vegetated.
2. Re-grading work shall be closely coordinated with the owner and engineer before and as the work is being accomplished. Once started ,the work shall be prosecuted with diligence until complete.
3. All new work shall slope uniformly between spot elevations unless noted otherwise. Provide positive drainage on all finish grades.
4. In areas to be filled, all trees, stumps, brush, abandoned structures, roots, topsoil, vegetation, sediments, large rock fragments, rubbish and any other undesirable or deleterious matter should be properly removed and disposed of. All top soil, roots and other vegetation and loose or soft soils should be stripped to a depth of 6inches to the extent practical. It is recommended that trees scheduled for removal in the vicinity of proposed slab-on-grade foundations be removed as far in advance of slab construction as possible. This will tend to restore a more favorable soil moisture equilibrium which will in turn minimize the potential for greater than anticipated post-construction ground movements. Trees should be excavated to below their root balls. Excavation should be filled with soil similar to the surrounding soil. The fill should be constructed in accordance with the recommendations presented in the preliminary geotechnical investigation.
5. Watering of earthwork placed in fill areas may be necessary to achieve the specified moisture density requirement and to germinate/sustain grass cover in areas to receive a vegetative cover after grading is complete. The contractor may request for a fire hydrant meter from the City for construction water use or obtain water from an alternate source. No extra payment will be made to the contractor for water.
6. Contractors are directed to ensure that all swales as shown on the grading plans are properly installed. At locations where retaining walls exist and/or are proposed behind, beside or between lots, swales must be created on the upper lot directly behind the wall and on the lower lot adjacent to the wall where shown to convey surface drainage in the direction shown on the grading plan.
7. Re-establishment of vegetation shall be initiated immediately after completing grading and in no case later than 14days after completion of grading. The contractor will be required to broadcast seed and fertilizer on finished lots. Tilling will not be required.The unit price bid for revegetation of graded lots shall include all costs associated with providing and spreading seed and fertilizer. The vegetation must achieve a cover that is 70percent of the native background cover to be considered final stabilization.

CITY OF CELINA
CONSTRUCTION NOTES
STANDARD DETAILS

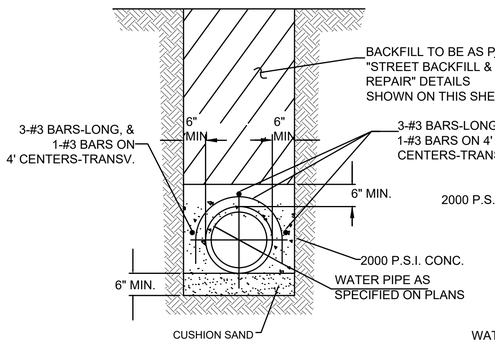
DESIGNED BY: G.F	REV. BY	DATE	SYMBOL	DATE: JANUARY 2016
DRAWN BY: J.P				JOB NO.:
CHECKED BY: G.F				SHEET NO.: CN - 1

P-201511-02



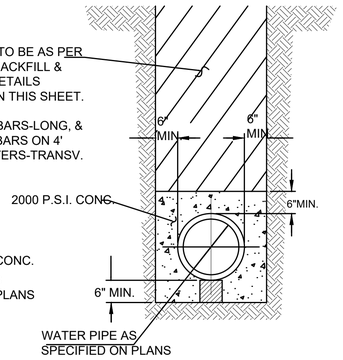
PIPE SIZE (INCHES)	X (INCHES)
LARGER THAN 24	12
24 OR LESS	6

WATER PIPE EMBEDMENT DETAIL



CAP DETAIL

N.T.S.



ENCASEMENT DETAIL

N.T.S.

WATER GENERAL NOTES:

A. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS OF THE CITY OF CELINA, WHICH HAS ALSO ADOPTED THE LATEST EDITION OF THE "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCITON-NORTH CENTRAL TEXAS" HEREIN REFERRED TO AS "N.C.T.C.O.G." SPECIFICATIONS. COPIES MAY BE OBTAINED FROM THE NORTH CENTRAL TEXAS COUNCIL OF GOVERNMENTS, 616 SIX FLAGS DRIVE, SUITE 200, ARLINGTON, TEXAS 76005-5888. (817) 640-3300. THESE SPECIFICATIONS ARE ALSO AVAILABLE AT WWW.PUBLICWORKSDFWINFO.COM.
B. PLEASE ALSO REFER TO N.C.T.C.O.G., ITEM 501, 502, 503, 504, 505, 506, & 509 SPECIFICATIONS.
C. WHERE SPECIFIED NAME BRANDS ARE INDICATED, PRODUCTS OF EQUAL OR BETTER MAY BE CONSIDERED FOR APPROVAL UPON SUBMITTAL OF ALL SUPPORTING DATA TO THE CITY ENGINEER FOR REVIEW.
D. THE CONTRACTOR SHALL PROVIDE FOR TEMPORARY 3" COLD MIX ASPHALTIC CONCRETE AS PER N.C.T.C.O.G., ITEM 403.2.3 TO BE PLACED OVER ALL VEHICULAR TRAVELED AREAS UNTIL THE FINAL REPAIRS/IMPROVEMENTS ARE MADE.
E. ALL VALVE STACKS AND COVERS ON ABANDONED WATER MAINS SHALL BE REMOVED AND FILLED WITH CONCRETE; SURFACE SHALL BE REPAIRED TO MATCH EXISTING.
F. CONTRACTOR SHALL CONTACT THE ROADS DEPARTMENT FOR THE REMOVAL OF CITY SIGNS IN RIGHT-OF-WAY.

PIPE:

A. POLYVINYL CHLORIDE (PVC) PIPE
   1. PVC WATER MAINS FROM 4" TO 8" IN DIAMETER SHALL BE AWWA C900 DR14.
   2. PVC WATER MAINS 12" IN DIAMETER SHALL BE AWWA C900 DR18.
   3. PVC WATER MAINS 16" IN DIAMETER AND GREATER SHALL BE AWWA C905 DR18

DUCTILE IRON WATER MAINS 16" IN DIAMETER AND LARGER SHALL BE IN ACCORDANCE WITH ANSI/AWWA C151/A21.50 WITH A MINIMUM PRESSURE CLASS OF 150 PSI. IT SHALL BE THE ENGINEER'S RESPONSIBILITY TO DETERMINE WHETHER A HIGHER PRESSURE CLASS IS REQUIRED. ALL DUCTILE IRON PIPES SHALL BE EPOXY COATED INSIDE AND OUT. COATINGS MUST CONFORM TO THE AMERICAN NATIONAL STANDARDS INSTITUTE/NATIONAL SANITATION FOUNDATION (ANSI/NSF) STANDARD 61 AND MUST BE CERTIFIED BY AN ORGANIZATION ACCREDITED BY ANSI.

B. PVC PIPE SHALL NOT BE USED FOR MAINS GREATER THAN 24" IN DIAMETER
C. EMBEDMENT:
   1. REFERENCE WATER PIPE EMBEDMENT DETAILS
D. STORAGE: PVC WATER PIPE IS ALLOWED TO BE STORED A MAXIMUM OF SIX (6) MONTHS WITHOUT COVER. THEREAFTER ALL PIPES SHALL BE COVERED OR KEPT AWAY FROM SUNLIGHT AND SHALL BE PROTECTED FROM OTHER ELEMENTS. PIPES SHALL NOT BE LAID IN WATER OR PLACED WHERE IT CAN BE FLOODED WITH WATER OR SEWAGE DURING ITS STORAGE OR INSTALLATION.
E. INSTALLATION:
   1. NEW BLUE PVC WATER PIPE IS ACCEPTABLE FOR THE INSTALLATION. HOWEVER, THE CONTRACTOR IS RESPONSIBLE TO INSTALL THE PIPE IN A WAY THAT THE WRITING ON THE PIPE IS INSTALLED ON THE SIDE UP AND IS READABLE FROM THE TOP OF THE DITCH.
F. ALL WATER MAINS, VALVES, FITTINGS, ETC. MADE WITH DUCTILE IRON OR FERROUS METAL SHALL BE EPOXY COATED.
G. BEVELED ENDS OF THE PIPE SHALL BE REMOVED WHEN USED IN MECHANICAL JOINT (MJ) FITTINGS.
H. CASINGS: WHEN PVC WATER PIPE IS INSTALLED IN CASING, SKIDS MUST BE USED TO PREVENT DAMAGE TO THE PIPE AND BELL DURING INSTALLATION. PVC PIPE SHOULD NOT REST ON THE BELLS. PLASTIC SPACERS SHALL BE USED.
I. MUST STUB OUT AT LEAST ONE FULL JOINT OF PIPE AT ALL STUB OUTS. NO SERVICES SHALL BE LOCATED ON THE STUB OUT.
J. PLACE PIPE WITH LETTERING FACING UP (ON TOP OF PIPE).
K. MAXIMUM PIPE DEFLECTION SHALL BE AS RECOMMENDED BY MANUFACTURER.
L. DUCTILE IRON PIPE WHERE SPECIFIED BY THE ENGINEER SHALL HAVE CEMENT-MORTER LINING PER AWWA C104 SPECIFICATIONS AND SHALL BE OF A MINIMUM THICKNESS CLASS 51 OR GREATER AND HAVE A MINIMUM 8 MILS POLYWRAP.

FITTINGS:

A. THE CONTRACTOR MAY USE CAST IRON OR DUCTILE FITTINGS, COMPLETE WITH EPOXY COATING AND 8 MIL. (MIN.) POLYWRAP.
B. ALL FITTINGS SHALL BE BLOCKED AS PER DETAILS ON THIS SHEET.
C. ALL FITTINGS SHALL BE MJ UNLESS SPECIFIED OTHERWISE. PVC FITTINGS ARE NOT ALLOWED.
D. FITTINGS AT TEE JUNCTIONS WITH VALVES AND FIRE HYDRANT LEADS SHALL BE FLANGED AND NOT MJ
E. PLEASE ALSO REFER TO N.C.T.C.O.G. ITEM 501 SPECIFICATIONS.
F. ALL BENDS, TEES, AND PLUGS SHALL HAVE RETAINER GLANDS.
G. USE AWWA C110 DUCTILE IRON FITTINGS FOR PIPES 3"-48" IN DIAMETER AND AWWA C153 FOR DUCTILE IRON COMPACT FITTINGS FOR PIPES 3" TO 16" IN DIAMETER.
H. DUCTILE IRON INTEGRAL RESTRAINED JOINT FITTINGS ARE PERMISSIBLE FOR PVC AND DUCTILE IRON PIPE SIZES 4" - 12" IN DIAMETER; NOTE: CONCRETE BLOCKING IS NOT REQUIRED WITH THESE FITTINGS.
I. ALL DUCTILE IRON AND CAST IRON FITTINGS SHALL BE MANUFACTURED IN THE UNITED STATES.
J. POLYWRAP SADDLES WITH 8 MIL POLYWRAP.

VALVES:

A. VALVES INSTALLED ON WATERLINES SHALL BE NON-RISING STEMS RESILIENT WEDGE GATE VALVES UNLESS SPECIFIED OTHERWISE.
B. ALL VALVES AND FIRE HYDRANTS SHALL BE IN LINE WITH THE PROPERTY LINE, WHERE POSSIBLE.
C. ALL VALVE LOCATIONS SHALL BE MARKED WITH "V" STAMPED OR CUT ON THE CURB.
D. PLEASE ALSO REFER TO THE DETAILS ON THIS SHEET AND N.C.T.C.O.G. ITEM 502.6 SPECIFICATIONS.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE FOLLOWING:

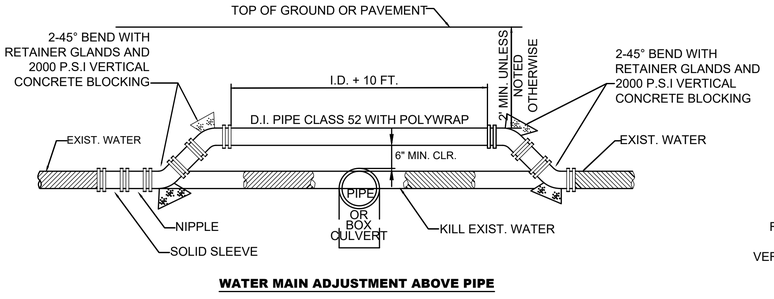
1. PURGING BY USING THE "POLY-PIG" METHOD TO ENTER AND EXIT AT APPROVED STRATEGIC LOCATIONS AND AS PER N.C.T.C.O.G. ITEM 506.7.3.1 SPECIFICATIONS,TO INCLUDE ALL EQUIPMENT, MATERIAL, FITTINGS, AND LABOR.
2. HYDROSTATIC TEST AS PER N.C.T.C.O.G. ITEM 506.5 SPECIFICATIONS.
3. STERILIZATION SHALL FOLLOW AS PER N.C.T.C.O.G. ITEM 506.7 SPECIFICATIONS AND AS APPROVED BY THE CITY ENGINEER.
4. ALL TEMPORARY TEST POINTS TO HAVE CORPORATION STOPS AT THE MAIN.
5. ALL TEMPORARY TESTING & CHLORINATION POINTS SHALL BE REMOVED AT THE CORPORATION, PRIOR TO FINAL ACCEPTANCE.
6. ONE WATER SAMPLE PER EACH SHEET NAME, OR AS APPROVED BY THE CITY ENGINEER.
7. BACKFILL, DENSITY AND CONCRETE TESTING FOR ALL PROJECTS UNLESS SPECIFIED OTHERWISE. ALL REPORTS SHALL BE TURNED IN TO THE INSPECTOR WITHIN FIVE (5) WORKING DAYS.

MATERIAL:

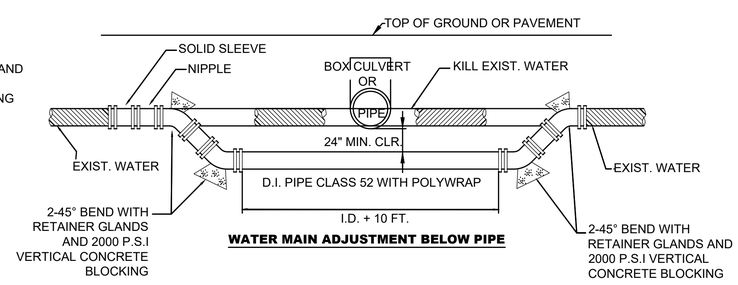
A. ALL MATERIAL INCORPORATED IN THE CONSTRUCTION SHALL BE NEW.

PRIVATE DEVELOPMENT PROJECTS:

A. THE DEVELOPER/OWNER SHALL PROVIDE ESCROW FUNDS FOR GEOTECHNICAL AND MATERIAL TESTING FOR BACKFILL, DENSITY, AND CONCRETE TESTING PRIOR TO BEGINNING OF ANY CONSTRUCTION.

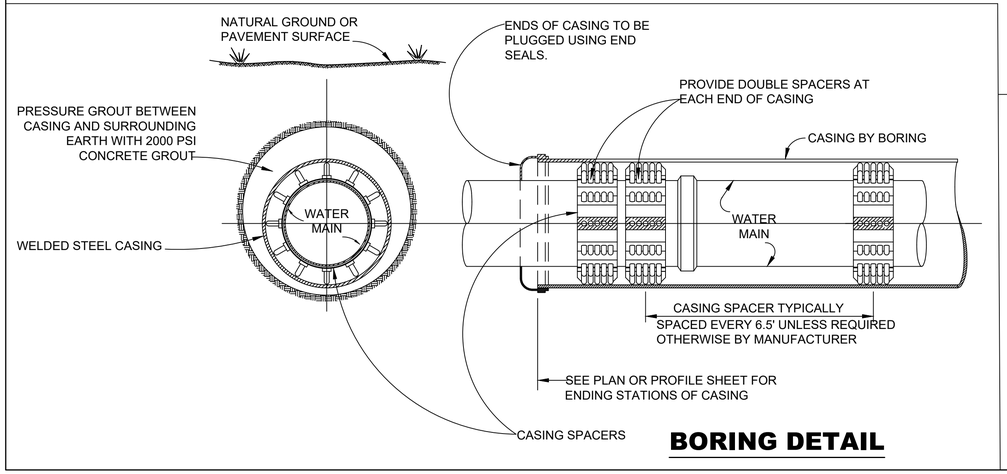


WATER MAIN ADJUSTMENT ABOVE PIPE



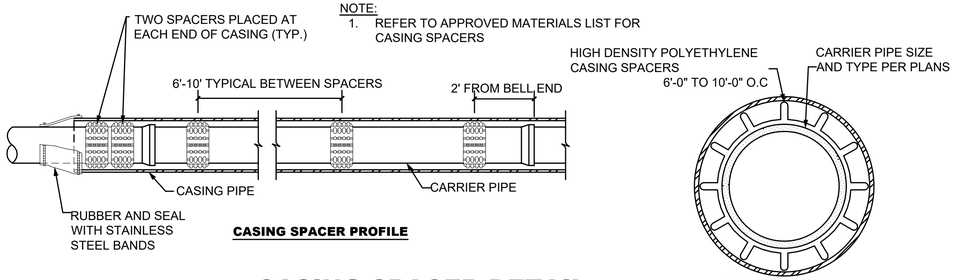
WATER MAIN ADJUSTMENT BELOW PIPE

WATER MAIN ADJUSTMENT DETAILS



BORING DETAIL

NOTE:
1. REFER TO APPROVED MATERIALS LIST FOR CASING SPACERS



CASING SPACER PROFILE

CASING SPACER

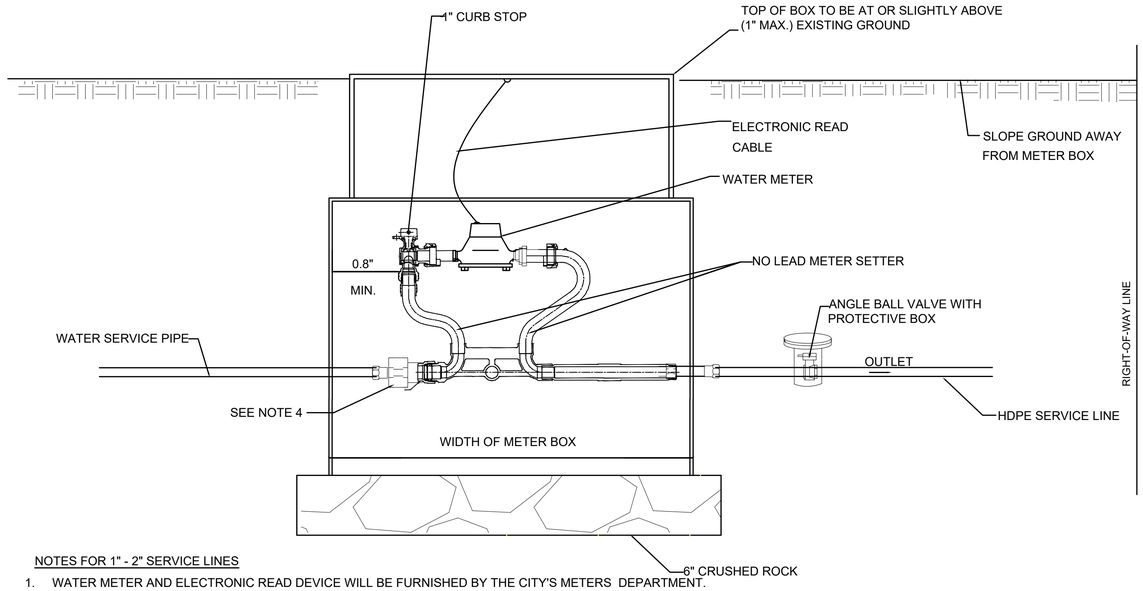
CASING SPACER DETAIL

CITY OF CELINA
WATER DETAILS 1
STANDARD DETAILS

DESIGNED BY: G.F	REV.	BY	DATE	SYMBOL
DRAWN BY: J.P				JOB NO.:
CHECKED BY: G.F				SHEET NO.: W- 1

DATE: JANUARY 2016

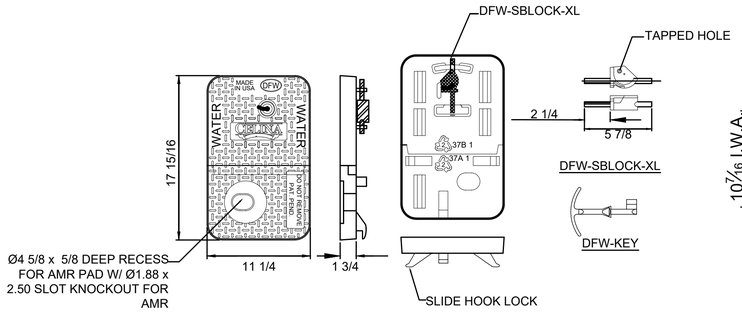
P-201511-02



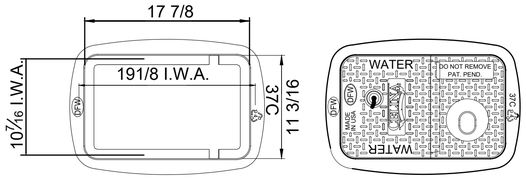
NOTES FOR 1" - 2" SERVICE LINES

1. WATER METER AND ELECTRONIC READ DEVICE WILL BE FURNISHED BY THE CITY'S METERS DEPARTMENT.
2. WATER PIPE, VALVES AND FITTINGS (EXCLUDING WATER METER) ARE TO BE ASSEMBLED INSIDE METER BOX (DFW37C-12) BY CONTRACTORS.
3. SAND BACKFILL AROUND EXTERIOR WALLS OF METER BOX IS TO BE CAREFULLY PLACED AND COMPACTED.
4. BOTTOM INLET AND OUTLET CONNECTIONS ARE TO ACCOMMODATE FLARED /COMPRESSIVE BRASS FITTINGS WITH RESTRAINED UNION.
5. LID IS TO BE HDPE WITH A BRASS LOCK, SIZED TO FIT METER BOX WITH HOLE AND PLUG FOR ELECTRONIC METER READ MODULE.
6. RISERS SHALL BE FORD 40 SERIES RESETTER WITH A HEIGHT OF 7 INCHES UNLESS OTHERWISE APPROVED BY CITY ENGINEER.
7. AN EXTERNAL ANGLE BALL VALVE WITH PROTECTIVE BOX SHALL BE PROVIDED TO ALLOW OPERATIONS WITHOUT UNNECESSARILY TAMPERING WITH METER BOX.

1" - 2" WATER SERVICE DETAIL

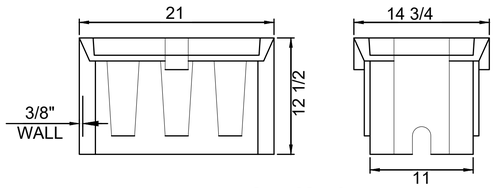


DFW37A-1SFDEEP CELINA-LID



DFW37A-12-1SFDEEP CELINA

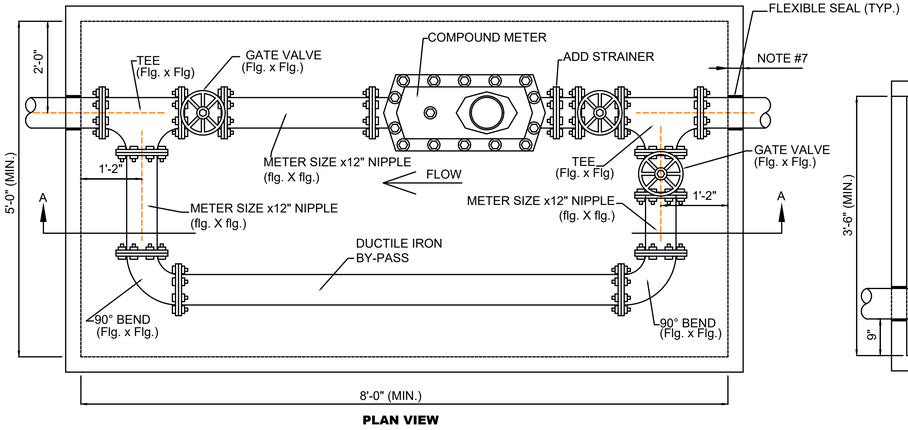
LID KEY	
1	BLACK COLOR
S	BRASS LOCK
F	KNOCKOUT
DEEP	DEEP RECESS
CELINA	CELINA ENGRAVING



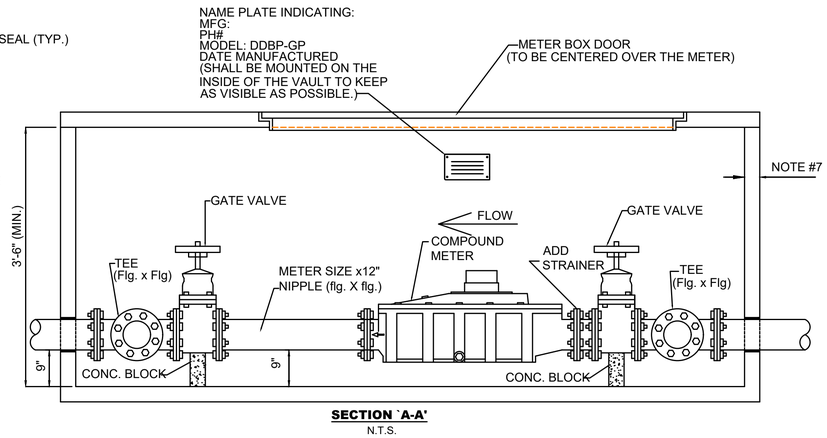
DFW37A-12-BODY

Part No.	Series	Size	Height	Width	Length
DFW37C-12-BODY	37C	21" x 14"	12"	Top - 14-3/4"	Top- 21"
DFW37A-12-1SFDEEP CELINA	37A	21" x 14"	12"	Base - 11"	Base- 21"
DFW37A-1SFDEEP CELINA-LID	37A	21" x 14"	1-3/4"	11-1/4"	17-15/16"

WATER METER BOX AND LID



PLAN VIEW

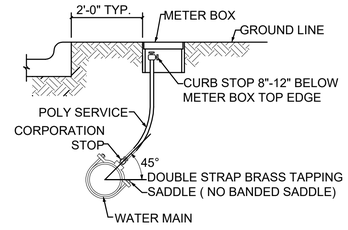


SECTION `A-A'
N.T.S.

NOTES METER VAULT

1. UNIT IS OF MONOLITHIC CONSTRUCTION AT FLOOR AND FIRST STAGE OF WALL WITH SECTIONAL RISER TO REQUIRED DEPTH
2. REINFORCEMENT: GRADE 60 REINFORCED. STEEL BAR CONFORMING TO ASTM 1615 ON REQUIRED CENTERS OR EQUAL.
3. HATCHWAY: 3' X 5' GALVANIZED STEEL DOUBLE LEAF SPRING ASSISTED HATCHWAY- W/ SLAM LOCK (TRAFFIC RATED IF WITHIN PAVING).
4. PRECAST VAULT SHALL BE FROM APPROVED MATERIAL LIST.
5. PIPE FITTINGS SHALL BE DUCTILE IRON.
6. MINIMUM 6" WATER LINE OFF T HE WATER MAIN WITH MINIMUM 6" GATE VALVE PRIOR TO REDUCING IN SIZE
7. THICKNESS OF VAULT WALLS TOP AND BASE MAY VARY AND ARE SPECIFIED BY THE PRECAST VAULT MANUFACTURING COMPANY.
8. NO HIGH RISING VALVE STEMS SHALL BE ALLOWED IN THE VAULT.
9. ALL BLOCKING SHALL BE CONCRETE.

WATER METER VAULT
N.T.S.



NOTES FOR TYPICAL WATER SERVICE CONNECTION

1. WATER SERVICES SHALL NOT BE CONNECTED TO FIRE HYDRANTS LINES OR TO FIRE SERVICE MAINS.
2. METER BOX SHALL BE LOCATED OUT OF ALL FLAT WORK, SIDEWALKS AND APPROACHES.
3. REFER TO TECHNICAL SPECIFICATION 331213 WATER SERVICE CONNECTIONS.

TYPICAL SERVICE CONNECTION

CITY OF CELINA

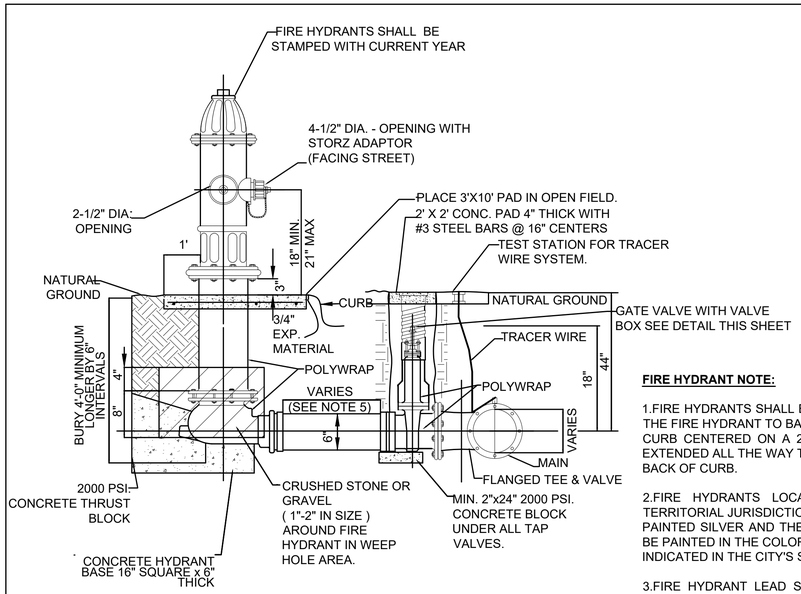
WATER DETAILS 2

STANDARD DETAILS

CELINA TEXAS est.1976

DESIGNED BY: G.F	REV. BY	DATE	SYMBOL	DATE: JANUARY 2016
DRAWN BY: J.P				JOB NO.:
CHECKED BY: G.F				SHEET NO.: W- 2

P-201511-02



STANDARD FIRE HYDRANT DETAIL

N.T.S.

FIRE HYDRANT NOTE:

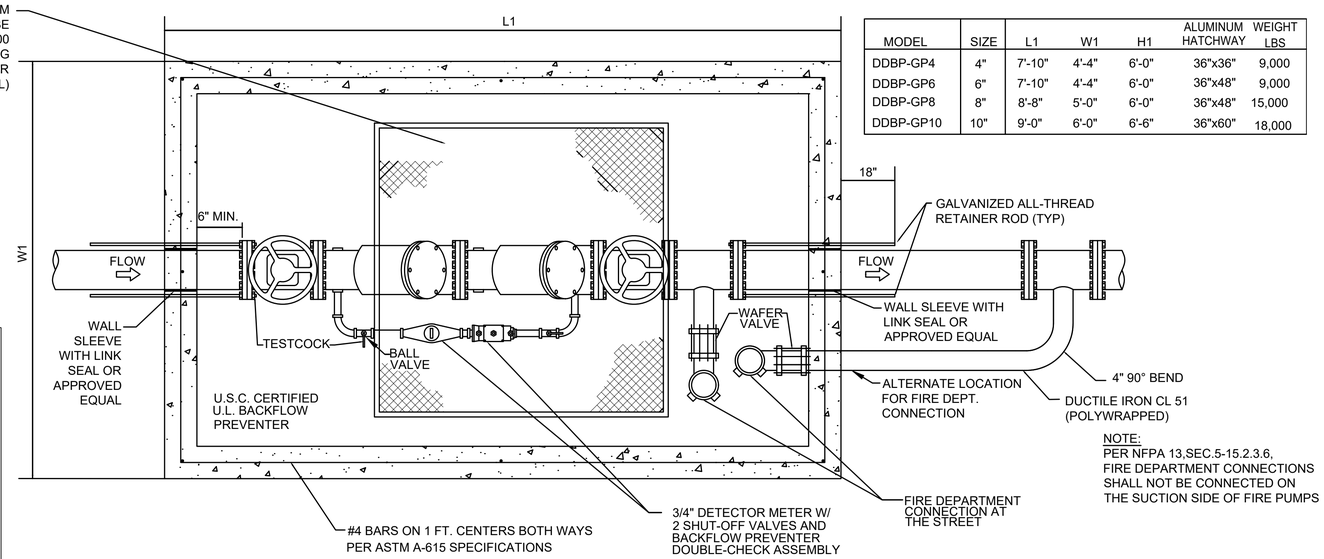
1.FIRE HYDRANTS SHALL BE LOCATED 2'-6' FROM THE CENTER OF THE FIRE HYDRANT TO BACK OF CURB CENTERED ON A 2FEET THICK 30" x 30 " CONCRETE PAD EXTENDED ALL THE WAY TO THE BACK OF CURB.

2.FIRE HYDRANTS LOCATED IN THE CITY AND ITS EXTRA TERRITORIAL JURISDICTION SHALL BE PAINTED SILVER AND THE BONNET OF THE FIRE HYDRANT SHALL BE PAINTED IN THE COLOR CODE INDICATED IN THE CITY'S STD. DETAILS

3.FIRE HYDRANT LEAD SHALL BE 150' MAXIMUM AS MEASURED FROM THE MAIN ENTRANCE UNLESS APPROVED BY THE CITY FIRE MARSHAL.

4.FIVE-INCH (5") KNOX STORZ GUARD ADAPTER WITH 4.5 INCH NATIONAL STANDARD THREAD AND LOCKING CAPS ARE REQUIRED ON ALL FIRE HYDRANT.

5.NO FIRE HYDRANT SHALL BE INSTALLED WITHIN THE RADIUS POINT OF AN INTERSECTION.



MODEL	SIZE	L1	W1	H1	ALUMINUM HATCHWAY	WEIGHT LBS
DDBP-GP4	4"	7'-10"	4'-4"	6'-0"	36"x36"	9,000
DDBP-GP6	6"	7'-10"	4'-4"	6'-0"	36"x48"	9,000
DDBP-GP8	8"	8'-8"	5'-0"	6'-0"	36"x48"	15,000
DDBP-GP10	10"	9'-0"	6'-0"	6'-6"	36"x60"	18,000

PLAN VIEW

N.T.S.

NAMEPLATE INDICATING:
MFG:
PH#
MODEL: DDBP-GP
DATE MANUFACTURED

(SHALL BE MOUNTED ON THE INSIDE OF THE VAULT TO KEEP AS VISIBLE AS POSSIBLE.)

NOTES FOR DOUBLE DETECTOR CHECK FIRE VAULTS AND FDC:

A. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATION OF THE CITY OF CELINA WHICH HAS ALSO ADOPTED THE LATEST EDITION OF THE " STANDARD SPECIFICATION FOR PUBLIC WORKS CONSTRUCTION-NORTH CENTRAL TEXAS " HEREIN REFERRED TO AS THE "N.C.T.C.O.G" SPECIFICATIONS. COPIES MAY BE OBTAINED FROM THE NORTH CENTRAL TEXAS COUNCIL OF GOVERNMENTS, 616 SIX FLAGS DRIVE SUITE 200, ARLINGTON, TEXAS-76005-5888. (817)640-3300.THESE SPECIFICATIONS ARE ALSO AVAILABLE AT WWW.PUBLICWORKS.DFWINFO.COM
B. PLEASE ALSO REFER TO N.C.T.C.O.G. ITEM 502 SPECIFICATIONS.
C. THE ASSEMBLY SHALL MEET THE BASIC REQUIREMENTS OF ASCE 1048 FOR DOUBLE CHECK VALVES AND MEET REQUIREMENTS OF AWWA, CSA, UL CLASSIFIED, FM APPROVED. ASSEMBLY SHALL ALSO BE APPROVED BY THE FOUNDATION FOR CROSS-CONNECTION CONTROL AND HYDRAULIC RESEARCH AT THE UNIVERSITY OF SOUTHERN CALIFORNIA
D. ALL DETAILS AND SPECIFICATIONS SHOWN ON THIS SHEET WILL GOVERN FOR THE INSTALLATION OF THE ASSEMBLY.

LOCATION:

A. THE VAULT SHALL BE LOCATED ON THE OWNER'S PROPERTY AND NOT WITHIN CITY RIGHT-OF-WAY OR EASEMENT.
B. THE OWNER AT HIS OPTION AND THE APPROVAL OF THE CITY OF CELINA MAY BE PERMITTED TO INSTALL THE DOUBLE CHECK DETECTOR BACK-FLOW PREVENTER ASSEMBLY INSIDE THE BUILDING . THE INSTALLATION WOULD BE REQUIRED TO BE PERMITTED WITH THE BUILDING INSPECTION DEPARTMENT AND WILL BE INSPECTED BY THE CITY'S CONSTRUCTION INSPECTORS AND THE BUILDING INSPECTION DEPARTMENT. THE FIRE DEPARTMENT CONNECTION IS TO BE LOCATED AT THE STREET. FIRE DEPARTMENT CONNECTION SHALL BE WITHIN 6FT. OF CURB, UNOBSTRUCTED AND IN CLEAR VIEW. WATER UTILITY PERSONNEL TO HAVE ACCESS DURING NORMAL BUSINESS HOURS.
C. THE FIRE DEPARTMENT CONNECTION MAY BE INSTALLED OUTSIDE THE VAULT WITH THE APPROVAL OF THE ENGINEERING DEPARTMENT.

VAULT:

A. THE VALVE VAULT MAY BE PRECAST
B. THE VAULT SHALL BE PLACED ON A 6INCHES GRAVEL BED AND THE VAULT SHALL HAVE A SUMP WITH A MINIMUM 12" X 12" GRATE IN THE BOTTOM OF THE VAULT FOR DRAINING PURPOSES. CONCRETE SHALL BE MINIMUM 4200PSI AT 28 DAYS
C. UNIT IS TO BE MONOLITHIC CONSTRUCTION AT FLOOR AND FIRST STAGE OF WALL WITH SECTIONAL RISER TO REQUIRED DEPTH.
D. REINFORCEMENT SHALL BE GRADE 60 REINFORCED STEEL BAR CONFORMING TO ASTM A-615 ON REQUIRED CENTERS OR EQUAL.
E. HATCHWAY SHALL BE 1/4" ALUMINUM DIAMOND PLATE COVER WITH EXTRUDED ALUMINUM FRAME. HATCH TO BE FURNISHED WITH 316 STAINLESS STEEL SNAP LOCK AND BRASS HINGES.
F. PRECAST VAULT SHALL BE FROM APPROVED MATERIAL LIST
G. PIPE AND FITTINGS SHALL BE DUCTILE IRON.

PERMIT AND INSPECTION:

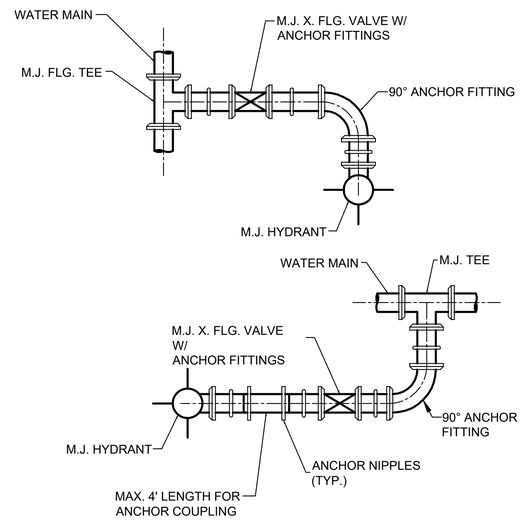
A. THE INSTALLATION OF THE CHECK VALVES AND VAULT SHALL BE PERMITTED AND INSPECTED BY THE PUBLIC WORKS DEPARTMENT. THE APPLICANT WILL BE REQUIRED TO PAY A PERMIT FEE AND OBTAIN TWO (2) YEAR MAINTENANCE BOND FROM DATE OF ACCEPTANCE OF INSTALLATION.
B. THE PIPE LINE FROM THE CHECK VALVE VAULT TO THE BUILDING SHALL BE PERMITTED AND INSPECTED BY THE WATER DIVISION OF THE CITY OF CELINA PUBLIC WORKS DEPARTMENT.
C. THE DOUBLE CHECK DETECTOR BACKFLOW PREVENTER ASSEMBLY SHALL CONSIST OF SINGLE COMPLETE ASSEMBLY CONTAINING TWO INDEPENDENT ACTING CHECK VALVES AND FOUR PROPERLY PLACED RESILIENT TEST COCKS FOR TEST OF THE ASSEMBLY.
D. ASSEMBLY SHALL ASLO INCLUDE TWO (2) U.L LISTED RESILIENT SEATED OS & Y SHUTOFF VALVES AND TEST COCKS.
E. UNIT SHALL BE UL/FM APPROVED WITH UL/FM APPROVED OS & Y SHUTOFF VALVES.
F. THE AUXILLIARY LINE SHALL CONSIST OF AN APPROVED BACKFLOW PREVENTER (DOUBLE CHECK ASSEMBLY COMPLETED WITH TEST COCKS) AND A 5/8" X 3/4" WATER METER.
G. THE BYPASS AUXILIARY LINE SHALL HAVE A DOUBLE CHECK ASSEMBLY.
H. THE BACKFLOW PREVENTER SHALL HAVE AN EPOXY COATED CAST IRON BODY OR STAINLESS STEEL BODY WITH REPLACEMENT BRASS SEATS AND/OR A UNITIZED STAINLESS AND PLASTIC CHECK ASSEMBLY.

TESTING:

A. THE UNIFORM PLUMBING CODE REQUIRES THAT THIS ASSEMBLY MUST BE TESTED IMMEDIATELY UPON INSTALLATION. COPIES OF THE TEST REPORT MUST BE FORWARDED TO THE CITY'S CONSTRUCTION INSPECTORS.
B. UPON INSTALLATION AND APPROVAL OF FIRE SPRINKLER LINE/FIRE DEPARTMENT CONNECTION, THE OWNER SHALL BE REQUIRED TO SUBMIT A YEARLY TEST REPORT FROM A REPUTABLE TESTING COMPANY STATING THAT THE CHECK VALVES ARE IN GOOD WORKING CONDITION. THESE TEST REPORTS SHALL BE SUBMITTED TO THE CITY'S ENGINEERING DEPARTMENT AND THE FIRE DEPARTMENT ONCE A YEAR AS REQUIRED BY THE TNRCC RULES AND REGULATIONS AND THE CITY OF CELINA CODE OF ORDINANCES. THE TESTING OF BACKFLOW PREVENTER ASSEMBLIES WHICH ARE INSTALLED TO PROVIDE PROTECTION AGAINST HEALTH HAZARDS ARE TO BE CONPLETED BY CERTIFIED FIRELINE TESTERS THAT ARE QUALIFIED TO TEST AND REPAIR BACKFLOW PREVENTER ASSEMBLIES ON FIRE LINES ONLY.

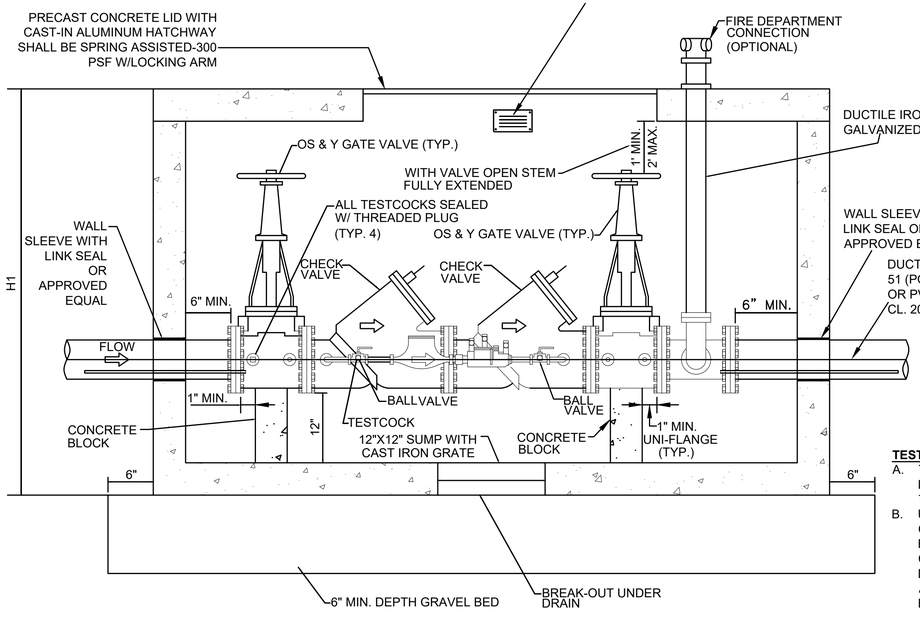
MAINTENANCE:

THE MAINTENANCE OF THE DOUBLE CHECK DETECTOR BACKFLOW ASSEMBLY SHALL BE BY THE PROPERTY OWNER. ALL MATERIAL INCORPORATED IN THE CONSTRUCTION SHALL BE NEW.



NOTES:
1. ALL FIRE HYDRANTS MUST BE ANCHORED TO THE MAIN BY USE OF ANCHOR FITTINGS.
2. ANCHOR TEES ALLOWED

FIRE HYDRANT INSTALLATION



ELEVATION

N.T.S.

DOUBLE DETECTOR CHECK FIRE VAULT AND FDC

CITY OF CELINA

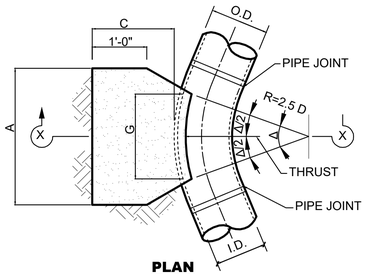
WATER DETAILS 3

STANDARD DETAILS

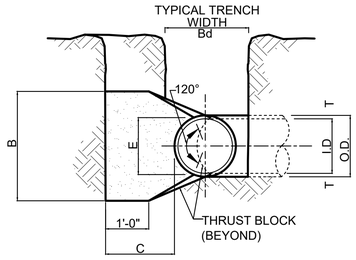
DESIGNED BY: G.F	REV.	BY	DATE	SYMBOL
DRAWN BY: J.P				
CHECKED BY: G.F				

DATE: JANUARY 2016
JOB NO.:
SHEET NO.: W- 3

P-201511-02



PLAN



SECTION X-X

I.D. (IN.)	T (IN.)	Δ = 11.25° C (IN.)	Δ ≥ 22.50° C (IN.)	E (IN.)
4,6,8	0.4	1.5	1.5	0.9
10,12	0.5	1.5	1.5	1.2
16,18	0.6	1.5	1.5	1.6
20	0.7	1.5	1.5	1.8
24	0.9	1.5	1.5	2.1
30	2.9	1.5	1.9	2.6
36	4.5	1.5	2.3	3.3
42	5.0	1.8	2.6	3.8
48	5.5	2.0	3.0	4.3
54	6.0	2.3	3.4	4.8
60	6.5	2.5	3.8	5.3
66	6.8	2.8	4.1	5.7
72	7.5	3.0	4.5	6.3
78	7.5	3.3	4.9	6.7
84	8.0	3.5	5.3	7.2
90	8.5	3.8	5.6	7.7
96	9.0	4.0	6.0	8.2

		Δ = 11.25°						
			EARTH			ROCK		
I.D. (IN.)	G (FT.)	THRUST TONS	A (FT.)	B (FT.)	VOL. (C.Y.)	A (FT.)	B (FT.)	VOL. (C.Y.)
4,6,8	0.4	1.0	1.0	1.5	0.1	1.0	1.0	0.1
10,12	0.6	2.2	1.5	1.5	0.1	1.0	1.5	0.1
16,18	0.8	5.0	2.0	2.5	0.3	1.5	2.0	0.2
20	0.9	6.2	2.0	3.5	0.4	1.5	3.0	0.3
24	1.1	8.9	3.0	3.5	0.5	1.5	3.0	0.3
30	1.4	10.4	3.0	3.5	0.6	2.0	3.5	0.4
36	1.7	15.0	3.5	4.5	0.9	2.0	4.0	0.5
42	1.9	20.4	4.5	5.0	1.5	2.5	5.0	0.8
48	2.2	26.6	4.5	6.0	2.0	2.5	6.0	1.1
54	2.5	33.7	6.0	6.0	3.0	3.0	6.0	1.4
60	2.7	41.6	6.0	7.0	3.8	3.0	7.0	1.8
66	3.0	50.3	6.5	8.0	5.1	3.5	8.0	2.7
72	3.3	59.9	7.5	8.0	6.3	4.0	8.0	3.3
78	3.6	70.2	8.0	9.0	8.1	4.0	9.0	3.9
84	3.8	81.5	8.5	10.0	10.3	4.5	10.0	5.3
90	4.1	93.5	9.5	10.0	12.2	5.0	10.0	6.3
96	4.4	106.4	10.0	11.0	15.0	5.0	11.0	7.4

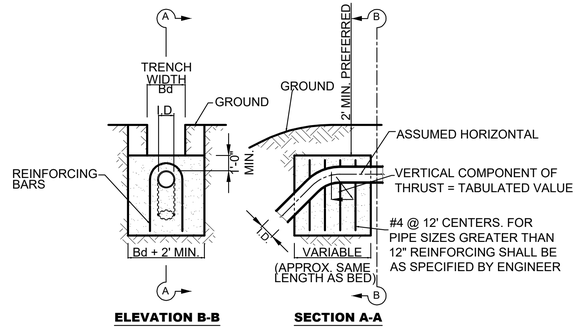
		Δ = 22.50°						
			EARTH			ROCK		
I.D. (IN.)	G (FT.)	THRUST TONS	A (FT.)	B (FT.)	VOL. (C.Y.)	A (FT.)	B (FT.)	VOL. (C.Y.)
4,6,8	0.8	2.0	1.5	1.5	0.1	1.0	1.0	0.1
10,12	1.1	4.4	2.0	2.5	0.3	1.5	1.5	0.1
16,18	1.6	9.9	3.0	3.5	0.6	2.0	2.5	0.3
20	1.8	12.3	3.5	3.5	0.7	2.0	3.0	0.4
24	2.2	17.7	4.0	4.5	1.0	3.0	3.5	0.5
30	2.7	20.7	5.0	4.5	1.5	3.0	4.0	0.8
36	3.3	29.8	5.5	5.5	2.3	4.0	4.0	1.3
42	3.8	40.5	7.0	6.0	3.9	4.5	5.0	2.1
48	4.4	52.9	8.0	7.0	5.7	4.5	6.0	2.8
54	4.9	67.0	9.0	8.0	8.0	6.0	6.0	4.1
60	5.5	82.7	9.5	9.0	10.6	6.0	7.0	5.3
66	6.0	100.1	10.5	10.0	14.1	6.5	8.0	7.2
72	6.6	119.1	11.0	11.0	17.6	7.5	8.0	9.1
78	7.1	139.8	12.0	12.0	22.5	8.0	9.0	11.7
84	7.5	162.1	13.0	12.5	27.2	8.5	10.0	14.8
90	8.2	186.0	14.0	13.5	33.7	9.5	10.0	17.7
96	8.7	211.7	15.0	14.5	41.2	10.0	11.0	21.8

		Δ = 30°								Δ = 45°							
			EARTH			ROCK						EARTH			ROCK		
I.D. (IN.)	G (FT.)	THRUST TONS	A (FT.)	B (FT.)	VOL. (C.Y.)	A (FT.)	B (FT.)	VOL. (C.Y.)	I.D. (IN.)	G (FT.)	THRUST TONS	A (FT.)	B (FT.)	VOL. (C.Y.)	A (FT.)	B (FT.)	VOL. (C.Y.)
4,6,8	1.0	2.6	2.0	1.5	0.2	1.0	1.5	0.1	4,6,8	1.5	3.9	2.0	2.0	0.2	1.5	1.5	0.1
10,12	1.5	5.9	2.5	2.5	0.3	2.0	1.5	0.2	10,12	2.2	8.7	3.5	2.5	0.5	2.0	2.5	0.3
16,18	2.2	13.2	3.5	4.0	0.8	2.5	3.0	0.4	16,18	3.2	19.5	4.5	4.5	1.2	3.0	3.5	0.6
20	2.4	16.3	4.5	4.0	1.0	3.0	3.0	0.5	20	3.6	24.1	5.5	4.5	1.5	3.5	3.5	0.7
24	2.9	23.4	6.0	4.0	1.4	3.5	3.5	0.7	24	4.3	34.6	8.0	4.5	2.3	4.5	4.0	1.1
30	3.6	27.5	6.5	5.0	1.9	3.5	4.0	0.9	30	5.4	40.6	8.5	5.0	3.2	5.5	4.0	1.6
36	4.4	39.5	7.0	6.0	3.4	4.5	4.5	1.6	36	6.5	58.5	10.0	6.0	5.3	6.5	4.5	2.6
42	5.1	53.8	8.0	7.0	5.1	5.0	5.0	2.5	42	7.5	79.6	11.5	7.0	6.1	8.0	5.0	4.2
48	5.8	70.3	9.0	8.0	7.4	6.0	6.0	3.7	48	8.6	104.0	13.0	8.0	11.9	9.0	6.0	6.3
54	6.5	89.0	10.0	9.0	10.3	7.0	6.5	5.3	54	9.7	131.5	15.0	9.0	17.1	10.5	6.5	8.9
60	7.3	110.0	11.0	10.0	13.9	7.5	7.5	7.3	60	10.7	162.4	16.5	10.0	23.1	11.0	7.5	12.0
66	8.0	132.9	12.5	11.0	18.9	8.5	8.0	9.6	66	11.8	196.5	18.0	11.0	30.1	12.0	8.5	16.2
72	8.7	158.6	13.5	12.0	24.0	9.0	9.0	12.3	72	12.9	233.9	19.5	12.0	38.6	14.0	8.5	20.7
78	9.4	185.6	14.5	13.0	30.0	10.0	9.5	15.6	78	13.9	274.5	21.5	13.0	49.8	14.5	9.5	25.9
84	10.1	215.3	15.5	14.0	37.1	10.5	10.5	19.5	84	15.0	318.4	23.0	14.0	61.2	15.5	10.5	32.6
90	10.9	247.1	16.5	15.0	45.0	11.5	11.0	23.9	90	16.1	365.5	24.5	15.0	74.5	17.5	10.5	39.6
96	11.6	281.2	18.0	16.0	55.5	12.5	11.5	28.9	96	17.1	415.6	26.0	16.0	89.5	18.5	11.5	48.5

		Δ = 67.50°								Δ = 90°							
			EARTH			ROCK						EARTH			ROCK		
I.D. (IN.)	G (FT.)	THRUST TONS	A (FT.)	B (FT.)	VOL. (C.Y.)	A (FT.)	B (FT.)	VOL. (C.Y.)	I.D. (IN.)	G (FT.)	THRUST TONS	A (FT.)	B (FT.)	VOL. (C.Y.)	A (FT.)	B (FT.)	VOL. (C.Y.)
4,6,8	2.1	5.6	3.0	2.0	0.3	2.0	1.5	0.2	4,6,8	2.7	7.1	5.0	1.5	0.4	2.0	1.5	0.2
10,12	3.1	12.6	5.5	2.5	0.8	3.5	2.0	0.4	10,12	4.0	16.0	6.5	2.5	1.0	3.5	2.5	0.5
16,18	4.7	28.3	7.5	4.0	1.9	5.5	3.0	0.9	16,18	6.0	36.0	9.0	4.0	2.4	4.5	4.0	1.0
20	5.2	34.9	9.0	4.0	2.3	5.5	3.5	1.2	20	6.6	44.4	10.0	4.5	3.1	6.0	4.0	1.5
24	6.2	50.3	11.5	4.5	3.5	6.5	4.0	1.6	24	7.9	64.0	14.5	4.5	5.0	8.0	4.0	2.1
30	7.8	58.9	12.0	5.0	4.8	7.5	4.0	2.2	30	9.9	75.0	15.0	5.0	6.7	10.0	4.0	3.3
36	9.4	84.9	14.5	6.0	8.2	9.5	4.5	3.8	36	11.9	108.0	18.0	6.0	11.4	12.0	4.5	5.3
42	10.9	115.5	17.0	7.0	12.8	11.0	5.5	6.3	42	13.9	147.0	21.0	7.0	17.8	14.0	5.5	8.7
48	12.5	150.9	19.0	8.0	18.4	13.0	6.0	9.2	48	15.9	192.0	24.0	8.0	26.2	16.0	6.0	12.4
54	14.0	191.0	21.5	9.0	26.0	15.0	6.5	12.9	54	17.9	243.0	27.0	9.0	36.9	18.0	7.0	18.1
60	15.6	235.8	24.0	10.0	35.6	16.0	7.5	17.6	60	19.9	299.8	30.0	10.0	50.3	20.0	7.5	24.0
66	17.1	285.3	26.0	11.0	46.0	18.0	8.0	23.0	66	21.8	362.8	33.0	11.0	66.2	22.0	8.5	32.5
72	18.7	339.5	28.5	12.0	57.8	19.0	9.0	28.4	72	23.8	431.8	36.0	12.0	85.6	24.0	9.0	41.0
78	20.2	398.5	31.0	13.0	75.7	21.0	9.5	37.4	78	25.7	506.7	39.0	13.0	108.2	26.0	10.0	53.2
84	21.8	462.1	33.5	14.0	94.7	22.0	10.5	46.5	84	27.7	587.7	42.0	14.0	134.4	28.0	10.5	64.8
90	23.3	530.5	35.5	15.0	114.4	24.5	11.0	58.2	90	29.0	674.6	45.0	15.0	164.9	30.0	11.5	81.2
96	24.9	603.6	38.0	16.0	138.9	25.5	12.0	70.0	96	31.6	767.5	48.0	16.0	199.0	32.0	12.0	95.1

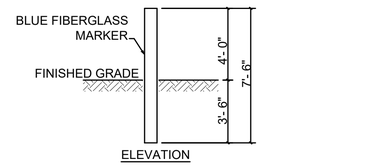
GENERAL NOTES FOR ALL THRUST BLOCKS
1. CONCRETE FOR BLOCKING SHALL BE CLASS B AND SULFATE RESISTANT.
2. ALL CALCULATIONS ARE BASED ON INTERNAL PRESSURE OF 200PSI FOR DUCTILE IRON, P.V.C
3. VOLUMES OF THRUST BLOCKS ARE NET VOLUMES OF CONCRETE TO BE FURNISHED. THE
CORRESPONDING WEIGHT OF THE CONCRETE IS EQUAL TO OR GREATER THAN THE VERTICAL
COMPONENTS OF THE THRUST ON THE VERTICAL BEND
4. WALL THICKNESS (T) ASSUMED HERE FOR ESTIMATING PURPOSES ONLY
5. POUR CONCRETE FOR BLOCK AGAINST UNDISTURBED EARTH
6. DIMENSIONS MAY BE VARIED AS REQUIRED BY FIELD CONDITIONS WHERE AND AS DIRECTED BY
THE ENGINEER. THE VOLUME OF CONCRETE BLOCKING SHALL BE LESS THAN SHOWN HERE.
7. THE SOIL BEARING PRESSURE ARE BASED ON 1000 LBS/S.F IN SOIL AND 2000 LBS./S.F IN ROCK.
8. USE POLYETHYLENE WRAP OR EQUAL BETWEEN CONCRETE AND BEND, TEE OR PLUG TO PREVENT
THE CONCRETE FROM STICKING TO IT.
9. FOR STANDARD FITTINGS, CONCRETE SHALL NOT EXTEND BEYOND JOINTS.

HORIZONTAL THRUST BLOCK AT PIPE BEND



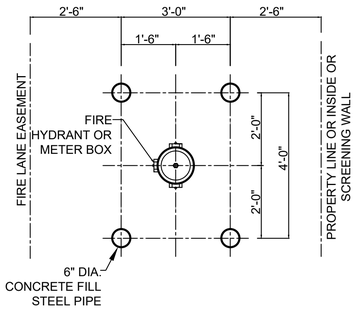
Δ	11.25°		22.5°		30°		45°		67.50°		90°		Δ
I.D. (IN.)	THRUST TONS	VOL. (C.Y.)	THRUST TONS	VOL. (C.Y.)	THRUST TONS	VOL. (C.Y.)	THRUST TONS	VOL. (C.Y.)	THRUST TONS	VOL. (C.Y.)	THRUST TONS	VOL. (C.Y.)	I.D. (IN.)
4,6,8	1.0	0.5	2.0	1.0	2.5	1.3	3.6	1.8	4.6	2.3	5.0	2.5	4,6,8
10,12	2.2	1.1	4.3	2.2	5.7	2.8	8.0	4.0	10.5	5.2	11.3	5.7	10,12
16,18	5.0	2.5	9.7	4.9	12.7	6.4	18.0	9.0	23.5	11.8	25.5	12.7	16,18
20	6.1	3.1	12.0	6.0	15.7	7.9	22.2	11.1	29.2	14.5	31.4	15.7	20
24	8.2	4.4	17.3	8.7	22.6	11.3	32.0	16.0	41.8	20.9	45.2	22.6	24
30	10.5	5.2	20.3	10.1	26.5	13.3	37.5	18.8	19.0	24.5	53.1	26.5	30
36	14.9	7.5	29.2	14.6	38.2	19.1	54.0	27.0	70.5	35.3	76.4	38.2	36
42	20.3	10.1	39.8	19.9	52.0	26.0	73.5	36.7	96.0	48.0	104.0	52.0	42
48	26.5	13.2	51.9	26.0	67.9	33.9	96.0	48.0	126.0	62.7	136.0	67.9	48
54	33.5	16.8	65.7	32.9	85.9	42.9	122.0	60.7	159.0	79.4	172.0	85.9	54
60	41.4	20.7	81.2	40.6	106.0	53.0	150.0	75.0	196.0	98.0	212.0	106.0	60
66	50.1	25.0	98.2	49.1	128.0	64.2	182.0	90.7	237.0	119.0	257.0	128.0	66
72	59.6	29.8	117.0	58.4	153.0	76.3	216.0	108.0	282.0	141.0	305.0	153.0	72
78	69.9	35.0	137.0	68.6	179.0	90.0	254.0	127.0	331.0	166.0	358.0	179.0	78
84	81.1	40.5	159.0	79.5	208.0	104.0	294.0	147.0	384.0	192.0	416.0	208.0	84
90	93.1	46.5	183.0	91.3	239.0	119.0	337.0	169.0	441.0	221.0	477.0	239.0	90
96	106.0	53.0	208.0	104.0	272.0	136.0	384.0	192.0	502.0	251.0	543.0	272.0	96

VERTICAL THRUST BLOCK AT PIPE BEND



GENERAL NOTES FOR WATER MAIN MARKER:
1. ALL OFFSITE CITY OF CELINA MAINS WITH VALVES, AIR RELEASE VALVES ETC SHALL BE MARKED AS DETAILED ON THIS SHEET.

OFFSITE WATER MAIN MARKER



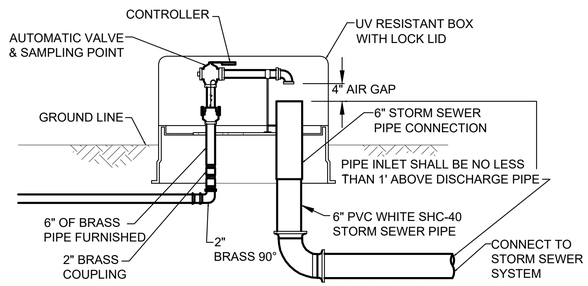
NOTES FOR PIPE BOLLARD
1. FOR USE WHERE CURBS ARE NOT POSSIBLE OR AS SPECIFIED BY THE CITY.
2. FIRE HYDRANTS SHALL BE 35FEET CLEAR OF ALL BUILDINGS.
3. GUARD POSTS SHALL BE 6 LINEAR FEET OF 6INCHES DIAMETER STEEL PIPE (3 FEET ABOVE AND BELOW GROUND LEVEL). POST SHALL BE ENCASED IN 16 INCHES DIAMETER CONCRETE PIER TO A DEPTH OF 12 INCHES BELOW POST BOTTOM. REINFORCED CONCRETE PIER WITH 2-#6 BARS (12 INCHES LONG) THROUGH POST INTO PIER. POST ABOVE GROUND SHALL BE PAINTED SAFETY YELLOW.

PIPE BOLLARD

CITY OF CELINA
WATER DETAILS 4
STANDARD DETAILS

CELINA TEXAS con 1876

DESIGNED BY: G.F	REV.	BY	DATE: JANUARY 2016
DRAWN BY: J.P			JOB NO.:
CHECKED BY: G.F			SHEET NO.: W- 4

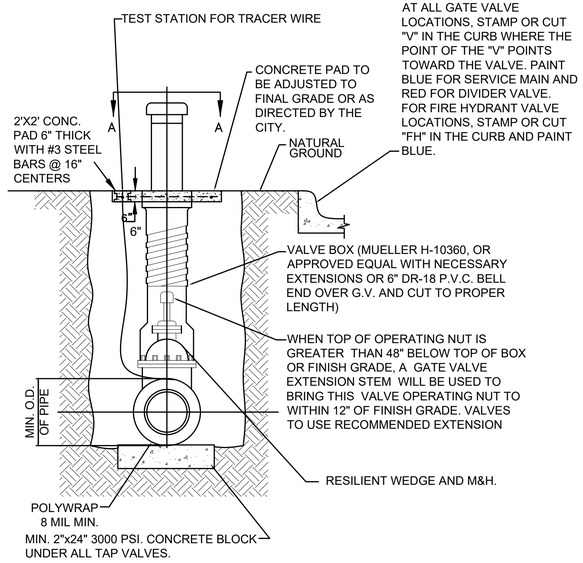


AUTOMATIC FLUSHING VALVE SHALL HAVE A 2" BRASS FIP INLET LEADING VERTICALLY INTO A 2" AUTOMATIC SOLENOID VALVE. AUTOMATIC SOLENOID VALVE SHALL HAVE AN INTERNAL, SELF-CLEANING DEBRIS SCREEN AND HAVE A 220 PSI RATING. EACH UNIT SHALL BE FURNISHED WITH A STAND-ALONE CONTROLLER. VALVE CONTROLLER WILL NOT REQUIRE A SECOND HAND-HELD DEVICE FOR PROGRAMMING. CONTROLLER MUST HAVE A MINIMUM OF 9 POSSIBLE FLUSHING CYCLES PER DAY. SHALL BE SUBMERSIBLE TO 12 FEET. OPERATE WITH A 9 VOLT BATTERY AND HAVE RESIN-SEALED ELECTRICAL COMPONENTS. SOLENOID SHALL HAVE NO LOOSE PARTS WHEN REMOVED FROM VALVE. EACH UNIT SHALL HAVE A DOUBLE VALVE ALL BRASS SAMPLING POINT. REMOVAL OF 2" SOLENOID VALVE SHALL BE POSSIBLE VIA A QUICK DISCONNECT BELOW THE VALVE. ALL ABOVE-GROUND COMPONENTS SHALL BE CONTAINED WITHIN A UV-RESISTANT LOCKING COVER.

NOTES FOR FLUSH POINT:

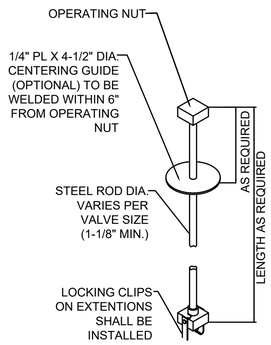
1. TUBING SHALL BE EMBEDDED IN SAND FROM CORPORATION STOP TO CURB STOP.
2. THE AUTOMATIC FLUSHING DEVICE SYSTEM SHALL BE INSTALLED PARALLEL TO THE CURB LINE.
3. UNIT SHALL NOT BE INSTALLED FRONT OF A RESIDENTIAL LOT.
4. IRRIGATION BOX SHALL BE NO LESS THAN 17" WIDE X 30" LONG X 18" DEEP X 2 BOLT DOWN.
5. CONTRACTOR TO OBTAIN PERMIT FROM THE CITY AND REQUEST 2" TURBINE METER SET AT THE PUBLIC WORKS DEPARTMENT.
6. REFER TO APPROVED MATERIALS LIST.

AUTOMATIC FLUSH POINT

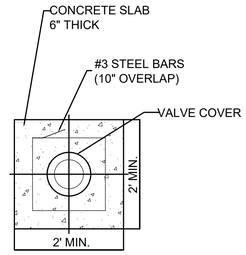


TYPICAL GATE VALVE SETTING AND BOX

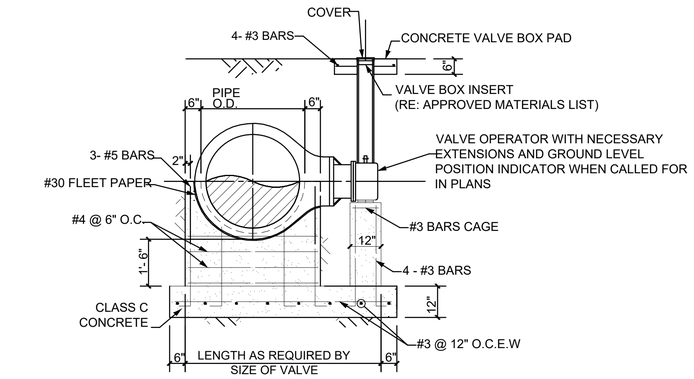
N.T.S.

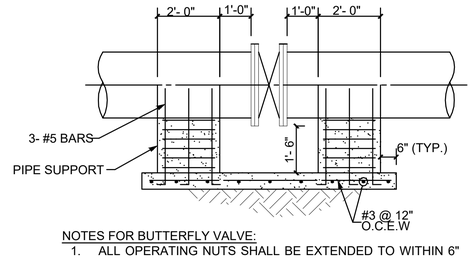


GATE VALVE EXTENSION STEM
N.T.S.



VIEW 'A - A'
N.T.S.

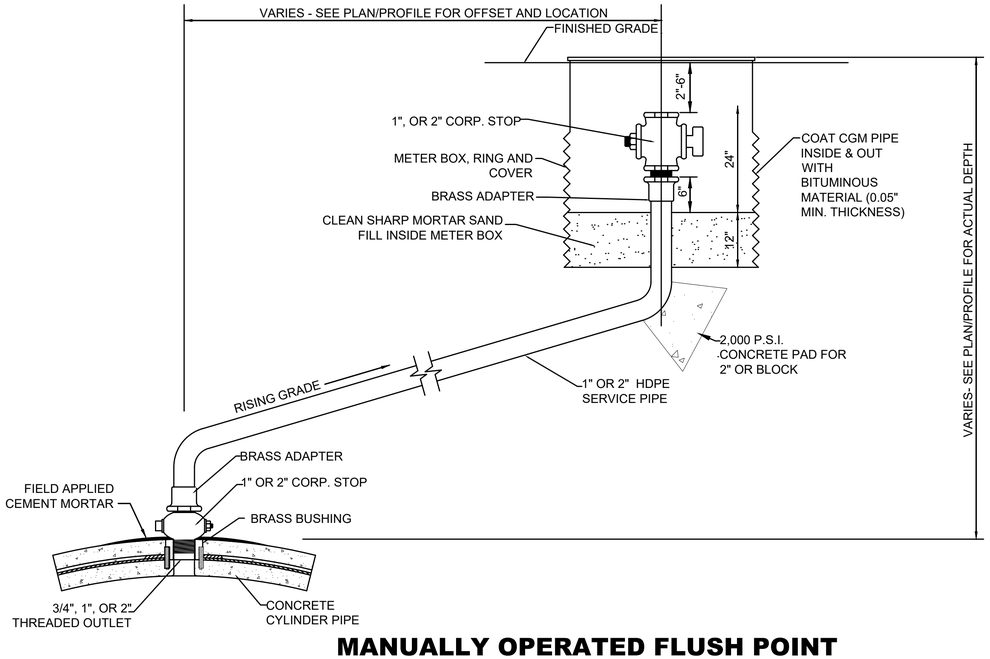




NOTES FOR BUTTERFLY VALVE:

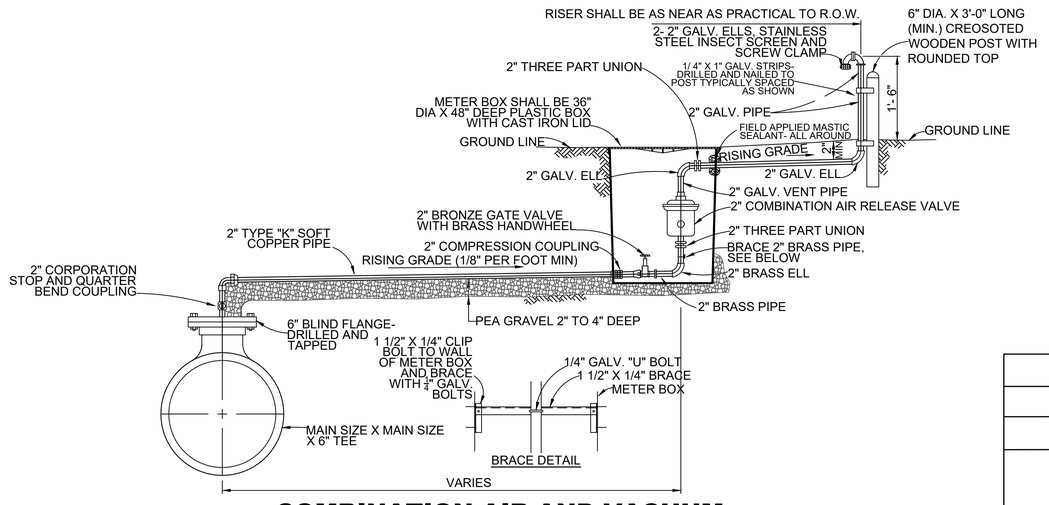
1. ALL OPERATING NUTS SHALL BE EXTENDED TO WITHIN 6" OF FINAL GRADE.
2. 6" BYPASS MAY BE REQUIRED BY CITY ON SPECIFIC PROJECTS.
3. REFER TO TECHNICAL SPECIFICATION 331218 BUTTERFLY VALVES

BUTTERFLY VALVE



MANUALLY OPERATED FLUSH POINT

(SIZES DESIGNATED ON PLANS)
NOT TO SCALE



COMBINATION AIR AND VACUUM RELEASE VALVE AND VAULT DETAIL

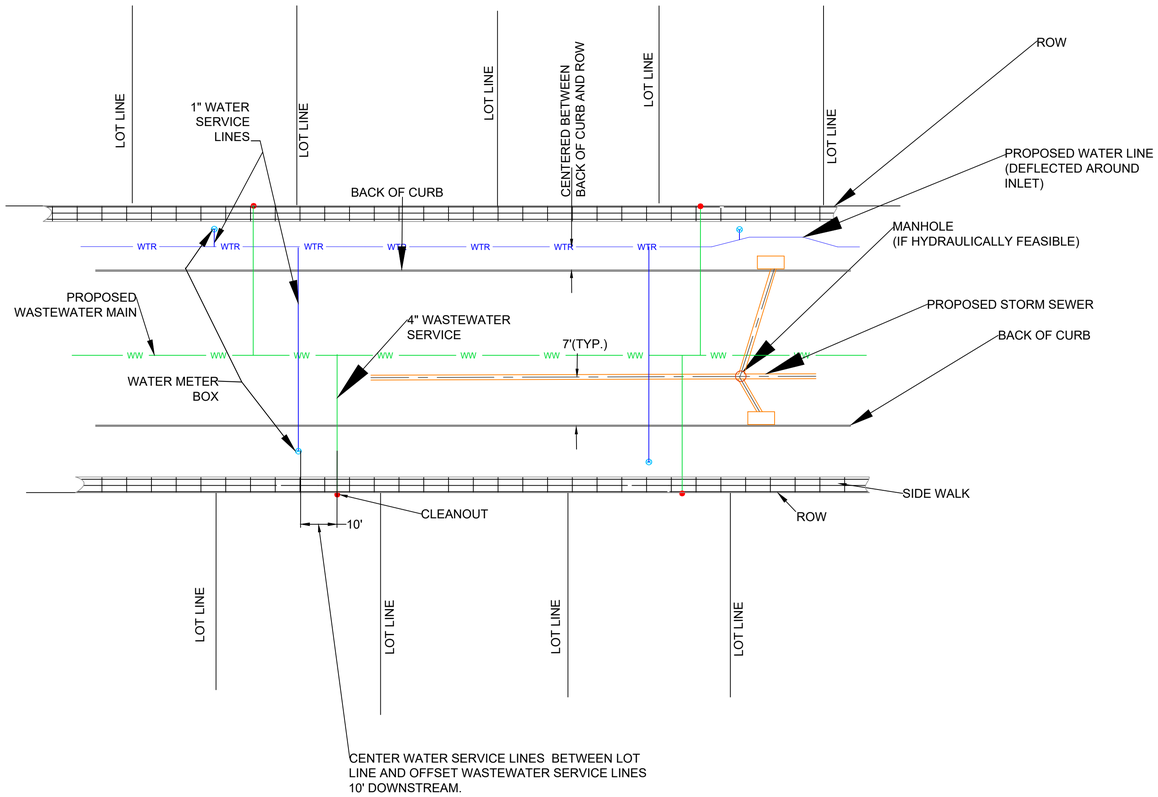
NOT TO SCALE

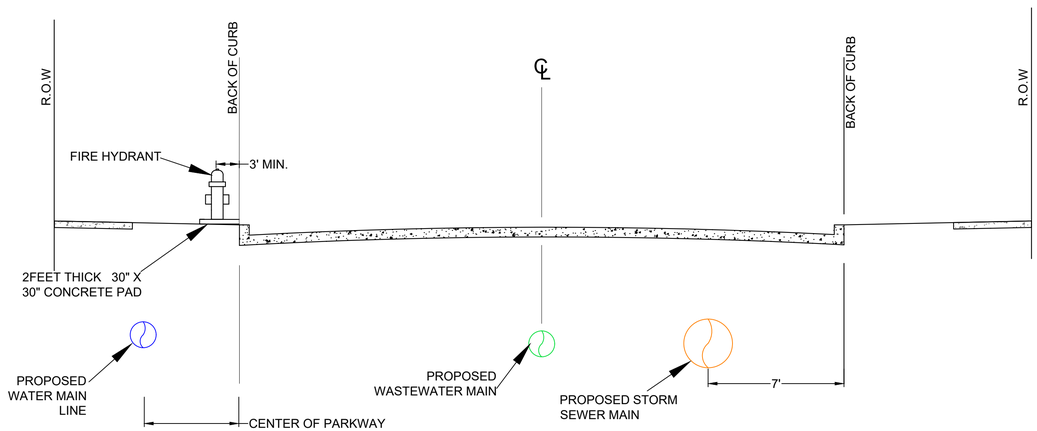
CITY OF CELINA
WATER DETAILS 5
STANDARD DETAILS

DESIGNED BY: G.F	REV.	BY	DATE	SYMBOL
DRAWN BY: J.P				JOB NO.:
CHECKED BY: G.F				SHEET NO.: W- 5

DATE: JANUARY 2016

P-201511-02





RESIDENTIAL UTILITY LAYOUT

TCEQ WATER DISTRIBUTION GENERAL NOTES

1. THIS WATER DISTRIBUTION SYSTEM MUST BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) RULES AND REGULATIONS FOR PUBLIC WATER SYSTEMS 30 TEXAS ADMINISTRATIVE CODE (TAC) CHAPTER 290 SUBCHAPTER D. WHEN CONFLICTS ARE NOTED WITH LOCAL STANDARDS, THE MORE STRINGENT REQUIREMENT SHALL BE APPLIED. CONSTRUCTION FOR PUBLIC WATER SYSTEMS MUST ALWAYS, AT A MINIMUM, MEET TCEQ'S "RULES AND REGULATIONS FOR PUBLIC WATER SYSTEMS.
2. AN APPOINTED ENGINEER SHALL NOTIFY IN WRITING THE LOCAL TCEQ'S REGIONAL OFFICE WHEN CONSTRUCTION WILL START. PLEASE KEEP IN MIND THAT UPON COMPLETION OF THE WATER WORKS PROJECT, THE ENGINEER OR OWNER SHALL NOTIFY THE COMMISSION'S WATER SUPPLY DIVISION, IN WRITING, AS TO ITS COMPLETION AND ATTEST TO THE FACT THAT THE WORK HAS BEEN COMPLETED ESSENTIALLY ACCORDING TO THE PLANS AND CHANGE ORDERS ON FILE WITH THE COMMISSION AS REQUIRED IN 30 TAC §290.39(H)(3).
3. ALL NEWLY INSTALLED PIPES AND RELATED PRODUCTS MUST CONFORM TO AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)/NSF INTERNATIONAL STANDARD 61 AND MUST BE CERTIFIED BY AN ORGANIZATION ACCREDITED BY ANSI, AS REQUIRED BY 30 TAC §290.44(A)(1).
4. PLASTIC PIPE FOR USE IN PUBLIC WATER SYSTEMS MUST BEAR THE NSF INTERNATIONAL SEAL OF APPROVAL (NSF-PW) AND HAVE AN ASTM DESIGN PRESSURE RATING OF AT LEAST 150 PSI OR A STANDARD DIMENSION RATIO OF 26 OR LESS, AS REQUIRED BY 30 TAC §290.44(A)(2).
5. NO PIPE WHICH HAS BEEN USED FOR ANY PURPOSE OTHER THAN THE CONVEYANCE OF DRINKING WATER SHALL BE ACCEPTED OR RELOCATED FOR USE IN ANY PUBLIC DRINKING WATER SUPPLY, AS REQUIRED BY 30 TAC §290.44(A)(3).
6. WATER TRANSMISSION AND DISTRIBUTION LINES SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. HOWEVER, THE TOP OF THE WATER LINE MUST BE LOCATED BELOW THE FROST LINE AND IN NO CASE SHALL THE TOP OF THE WATER LINE BE LESS THAN 24 INCHES BELOW GROUND SURFACE, AS REQUIRED BY 30 TAC §290.44(A)(4).
7. PURSUANT TO 30 TAC §290.44(A)(5), THE HYDROSTATIC LEAKAGE RATE SHALL NOT EXCEED THE AMOUNT ALLOWED OR RECOMMENDED BY THE MOST CURRENT AWWA FORMULAS FOR PVC PIPE, CAST IRON AND DUCTILE IRON PIPE. INCLUDE THE FORMULAS IN THE NOTES ON THE PLANS.

- THE HYDROSTATIC LEAKAGE RATE FOR POLYVINYL CHLORIDE (PVC) PIPE AND APPURTENANCES SHALL NOT EXCEED THE AMOUNT ALLOWED OR RECOMMENDED BY FORMULAS IN AMERICA WATER WORKS ASSOCIATION (AWWA) C-605 AS REQUIRED IN 30 TAC §290.44(A)(5). PLEASE ENSURE THAT THE FORMULA FOR THIS CALCULATION IS CORRECT AND MOST CURRENT FORMULA IS IN USE;

  Q= [LD (P^0.5)]/148000

WHERE:
Q = THE QUANTITY OF MAKEUP WATER IN GALLONS PER HOUR,
L = THE LENGTH OF THE PIPE SECTION BEING TESTED, IN FEET,
D = THE NOMINAL DIAMETER OF THE PIPE IN INCHES, AND
P = THE AVERAGE TEST PRESSURE DURING THE HYDROSTATIC TEST IN POUNDS PER SQUARE INCH (PSI).

- THE HYDROSTATIC LEAKAGE RATE FOR DUCTILE IRON (DI) PIPE AND APPURTENANCES SHALL NOT EXCEED THE AMOUNT ALLOWED OR RECOMMENDED BY FORMULAS IN AMERICA WATER WORKS ASSOCIATION (AWWA) C-600 AS REQUIRED IN 30 TAC §290.44(A)(5). PLEASE ENSURE THAT THE FORMULA FOR THIS CALCULATION IS CORRECT AND MOST CURRENT FORMULA IS IN USE;

  L= [SD (P^0.5)]/148000

WHERE:
L = THE QUANTITY OF MAKEUP WATER IN GALLONS PER HOUR,
S = THE LENGTH OF THE PIPE SECTION BEING TESTED, IN FEET,
D = THE NOMINAL DIAMETER OF THE PIPE IN INCHES, AND
P = THE AVERAGE TEST PRESSURE DURING THE HYDROSTATIC TEST IN POUNDS PER SQUARE INCH (PSI).

8. PROJECTS CONSTRUCTED ON OR AFTER JANUARY 1, 2014 MUST COMPLY WITH THE CHANGES TO THE SAFE DRINKING WATER ACT THAT REDUCE THE MAXIMUM ALLOWABLE LEAD CONTENT OF PIPES, PIPE FITTINGS, PLUMBING FITTINGS, AND FIXTURES TO 0.25 PERCENT.
9. THE SYSTEM MUST BE DESIGNED TO MAINTAIN A MINIMUM PRESSURE OF 35 PSI AT ALL POINTS WITHIN THE DISTRIBUTION NETWORK AT FLOW RATES OF AT LEAST 1.5 GALLONS PER MINUTE PER CONNECTION. WHEN THE SYSTEM IS INTENDED TO PROVIDE FIREFIGHTING CAPABILITY, IT MUST ALSO BE DESIGNED TO MAINTAIN A MINIMUM PRESSURE OF 20 PSI UNDER COMBINED FIRE AND DRINKING WATER FLOW CONDITIONS AS REQUIRED BY 30 TAC §290.44(D).
10. THE CONTRACTOR SHALL INSTALL APPROPRIATE AIR RELEASE DEVICES IN THE DISTRIBUTION SYSTEM AT ALL POINTS WHERE TOPOGRAPHY OR OTHER FACTORS MAY CREATE AIR LOCKS IN THE LINES. ALL VENT OPENINGS TO THE ATMOSPHERE SHALL BE COVERED WITH 16-MESH OR FINER, CORROSION RESISTANT SCREENING MATERIAL OR AN ACCEPTABLE EQUIVALENT AS REQUIRED BY 30 TAC §290.44(D)(1).
11. PURSUANT TO 30 TAC §290.44(D)(4), ACCURATE WATER METERS SHALL BE PROVIDED. SERVICE CONNECTIONS AND METER LOCATIONS SHOULD BE SHOWN ON THE PLANS.
12. PURSUANT TO 30 TAC §290.44(D)(5), SUFFICIENT VALVES AND BLOWOFFS TO MAKE REPAIRS. THE ENGINEERING REPORT SHALL ESTABLISH CRITERIA FOR THIS DESIGN.
13. PURSUANT TO 30 TAC §290.44(D)(6), THE SYSTEM SHALL BE DESIGNED TO AFFORD EFFECTIVE CIRCULATION OF WATER WITH A MINIMUM OF DEAD ENDS. ALL DEAD-END MAINS SHALL BE PROVIDED WITH ACCEPTABLE FLUSH VALVES AND DISCHARGE PIPING. ALL DEAD-END LINES LESS THAN TWO INCHES IN DIAMETER WILL NOT REQUIRE FLUSH VALVES IF THEY END AT A CUSTOMER SERVICE. WHERE DEAD ENDS ARE NECESSARY AS A STAGE IN THE GROWTH OF THE SYSTEM, THEY SHALL BE LOCATED AND ARRANGED TO ULTIMATELY CONNECT THE ENDS TO PROVIDE CIRCULATION.
14. THE CONTRACTOR SHALL MAINTAIN A MINIMUM SEPARATION DISTANCE IN ALL DIRECTIONS OF NINE FEET BETWEEN THE PROPOSED WATERLINE AND WASTEWATER COLLECTION FACILITIES INCLUDING MANHOLES AND SEPTIC TANK DRAINFIELDS. IF THIS DISTANCE CANNOT BE MAINTAINED, THE CONTRACTOR MUST IMMEDIATELY NOTIFY THE PROJECT ENGINEER FOR FURTHER DIRECTION. SEPARATION DISTANCES, INSTALLATION METHODS, AND MATERIALS UTILIZED MUST MEET 30 TAC §290.44(E)(1-4) OF THE CURRENT RULES.
15. PURSUANT TO 30 TAC §290.44(E)(5), THE SEPARATION DISTANCE FROM A POTABLE WATERLINE TO A WASTEWATER MAIN OR LATERAL MANHOLE OR CLEANOUT SHALL BE A MINIMUM OF NINE FEET. WHERE THE NINE-FOOT SEPARATION DISTANCE CANNOT BE ACHIEVED, THE POTABLE WATERLINE SHALL BE ENCASED IN A JOINT OF AT LEAST 150 PSI PRESSURE CLASS PIPE AT LEAST 18 FEET LONG AND TWO NOMINAL SIZES LARGER THAN THE NEW CONVEYANCE. THE SPACE AROUND THE CARRIER PIPE SHALL BE SUPPORTED AT FIVE-FOOT INTERVALS WITH SPACERS OR BE FILLED TO THE SPRINGLINE WITH WASHED SAND. THE ENCASEMENT PIPE SHALL BE CENTERED ON THE CROSSING AND BOTH ENDS SEALED WITH CEMENT GROUT OR MANUFACTURED SEALANT.
16. PURSUANT TO 30 TAC §290.44(E)(6), FIRE HYDRANTS SHALL NOT BE INSTALLED WITHIN NINE FEET VERTICALLY OR HORIZONTALLY OF ANY WASTEWATER LINE, WASTEWATER LATERAL, OR WASTEWATER SERVICE LINE REGARDLESS OF CONSTRUCTION.
17. PURSUANT TO 30 TAC §290.44(E)(7), SUCTION MAINS TO PUMPING EQUIPMENT SHALL NOT CROSS WASTEWATER MAINS, WASTEWATER LATERALS, OR WASTEWATER SERVICE LINES. RAW WATER SUPPLY LINES SHALL NOT BE INSTALLED WITHIN FIVE FEET OF ANY TILE OR CONCRETE WASTEWATER MAIN, WASTEWATER LATERAL, OR WASTEWATER SERVICE LINE.
18. PURSUANT TO 30 TAC §290.44(E)(8), WATERLINES SHALL NOT BE INSTALLED CLOSER THAN TEN FEET TO SEPTIC TANK DRAINFIELDS.
19. PURSUANT TO 30 TAC §290.44(F)(1), THE CONTRACTOR SHALL NOT PLACE THE PIPE IN WATER OR WHERE IT CAN BE FLOODED WITH WATER OR SEWAGE DURING ITS STORAGE OR INSTALLATION.
20. PURSUANT TO 30 TAC §290.44(F)(2), WHEN WATERLINES ARE LAID UNDER ANY FLOWING OR INTERMITTENT STREAM OR SEMI-PERMANENT BODY OF WATER THE WATER MAIN SHALL BE INSTALLED IN A SEPARATE WATERTIGHT PIPE ENCASEMENT. VALVES MUST BE PROVIDED ON EACH SIDE OF THE CROSSING WITH FACILITIES TO ALLOW THE UNDERWATER PORTION OF THE SYSTEM TO BE ISOLATED AND TESTED.
21. THE CONTRACTOR SHALL DISINFECT THE NEW WATER MAINS IN ACCORDANCE WITH AWWA STANDARD C-651 AND THEN FLUSH AND SAMPLE THE LINES BEFORE BEING PLACED INTO SERVICE. SAMPLES SHALL BE COLLECTED FOR MICROBIOLOGICAL ANALYSIS TO CHECK THE EFFECTIVENESS OF THE DISINFECTION PROCEDURE WHICH SHALL BE REPEATED IF CONTAMINATION PERSISTS. A MINIMUM OF ONE SAMPLE FOR EACH 1,000 FEET OF COMPLETED WATER LINE WILL BE REQUIRED OR AT THE NEXT AVAILABLE SAMPLING POINT BEYOND 1,000 FEET AS DESIGNATED BY THE DESIGN ENGINEER, IN ACCORDANCE WITH 30 TAC §290.44(F)(3).

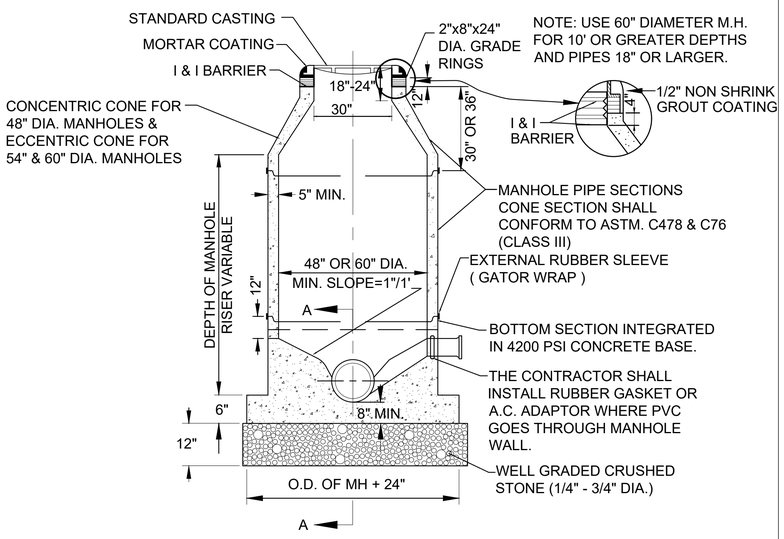
CITY OF CELINA

WATER DETAILS 6

STANDARD DETAILS

CELINA TEXAS est.1876

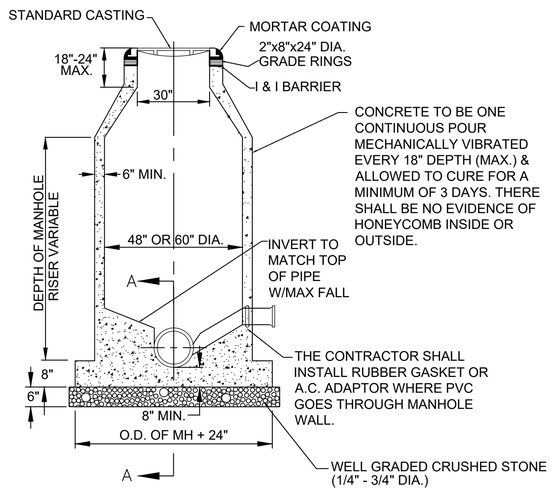
DESIGNED BY: G.F	REV.	BY	DATE	SYMBOL	DATE: JANUARY 2016
DRAWN BY: J.P					JOB NO.:
CHECKED BY: G.F					SHEET NO.: W- 6



PRECAST CONCRETE MANHOLE (ASTM C478)

N.T.S.

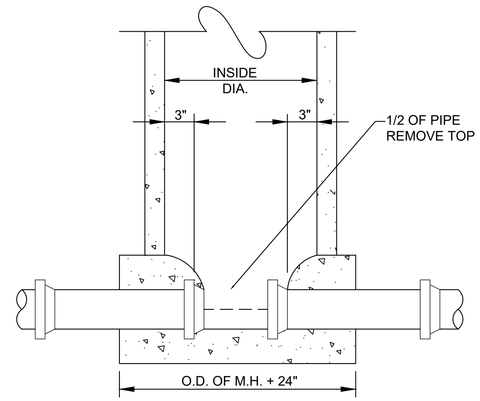
SEE CONCRETE MANHOLE NOTES.



CAST IN PLACE CONCRETE MANHOLE

N.T.S.

SEE CONCRETE MANHOLE NOTES.



MANHOLE SECTION A-A

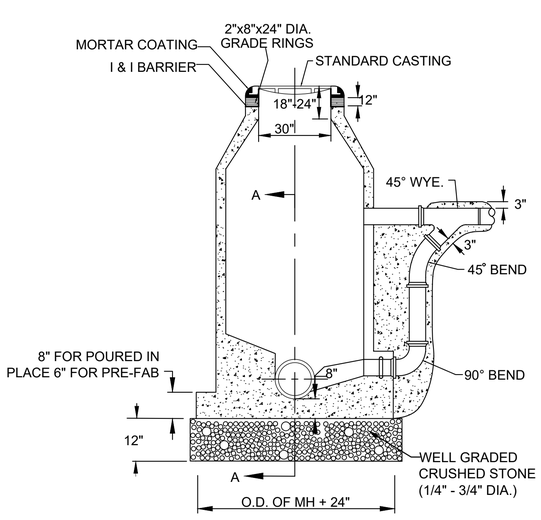
N.T.S.

CONCRETE MANHOLE NOTES:

1. CONCRETE FOR ALL PRECAST AND POURED IN PLACE MANHOLES SHALL BE MIN. 6 SACK 4000 P.S.I. SULPHATE RESISTANT CONCRETE, SUCH AS : TYPE II OR TYPE V CEMENT
2. THE DIAMETER OF THE CONCRETE BASE SHALL NOT BE LESS THAN THE INSIDE DIAMETER OF THE MANHOLE PLUS 2 FT.
3. STEPS SHALL NOT BE INSTALLED IN MANHOLE.
4. ALL NEW MANHOLES SHALL BE MARKED WITH "MH" STAMPED OR CUT IN THE CURB.
5. USE DROP CONNECTIONS WHEN CONNECTING LINE EXCEEDS 24" ABOVE THE MANHOLE FLOW LINE.
6. USE OUTSIDE DROP CONNECTIONS ON ALL NEW MANHOLES.
7. USE INSIDE DROP CONNECTION ON EXISTING MANHOLES ONLY.
8. MANHOLE WALLS SHALL BE CORE DRILLED FOR SEWER CONNECTIONS.
9. ALL CONCRETE MANHOLES SHALL HAVE INFLOW AND INFILTRATION BARRIER
10. ALL PRECAST MANHOLES SHALL HAVE GATOR WRAP ON ALL JOINTS.

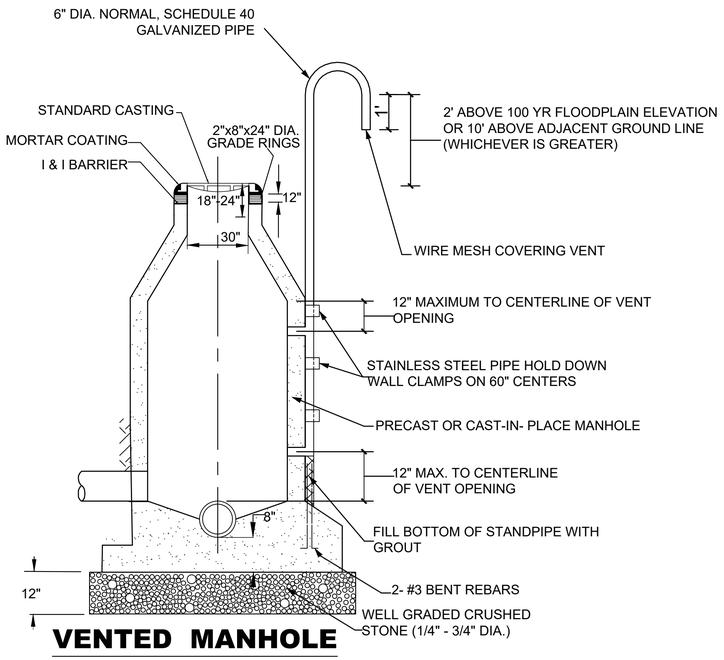
MANHOLE ABANDONMENT

1. REMOVE FRAME, LID AND CONE.
2. CUT AND PLUG ALL ABANDONED SEWER MAINS AT MANHOLE.
3. FILL BOTTOM 12" OF MANHOLE WITH 2000 PSI CONCRETE.
4. BACKFILL AND COMPACT MANHOLE CAVITY WITH SAND AND/OR GRAVEL.
5. REPAIR SURFACE TO MATCH EXISTING AS PER CITY STANDARDS.

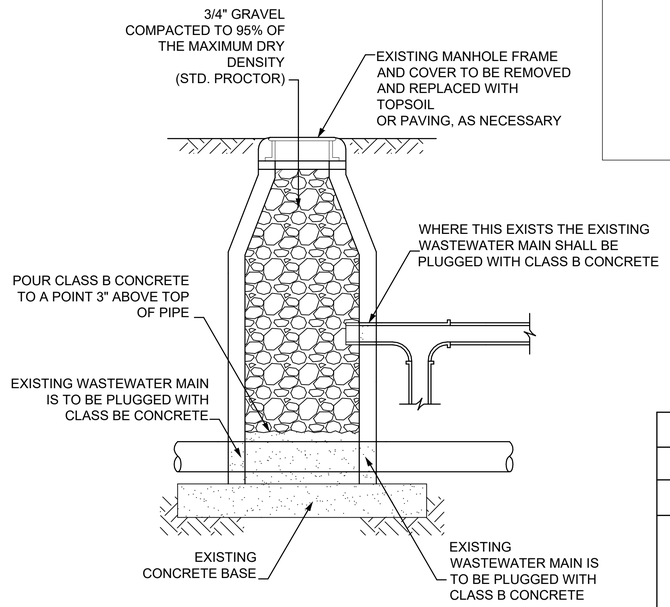


STANDARD DROP CONNECTION TO MANHOLE

N.T.S.



VENTED MANHOLE



MANHOLE ABANDONMENT

CITY OF CELINA

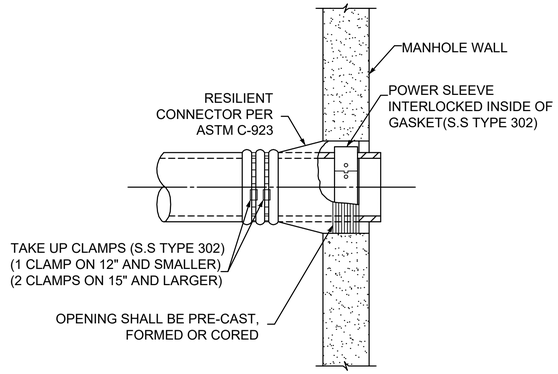
WASTE WATER DETAILS 1

STANDARD DETAILS

CELINA TEXAS est. 1876

DESIGNED BY: G.F	REV.	BY	DATE	SYMBOL	DATE: JANUARY 2016
DRAWN BY: J.P					JOB NO.:
CHECKED BY: G.F					SHEET NO.: WW- 1

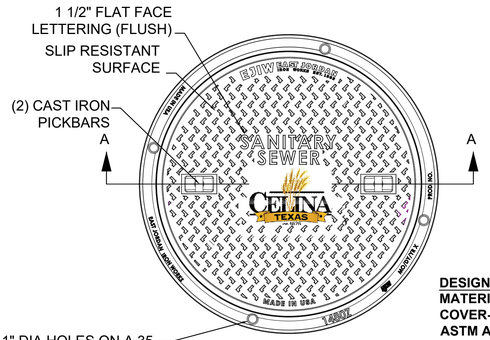
P-201511-02



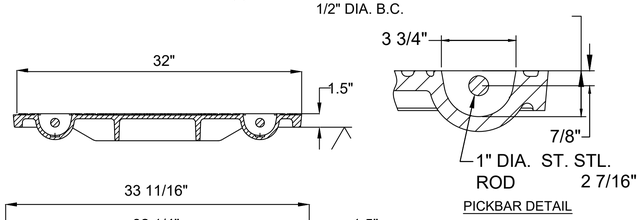
MANHOLE TO PIPE RESILIENT CONNECTOR

MANHOLE RING AND COVER NOTES:

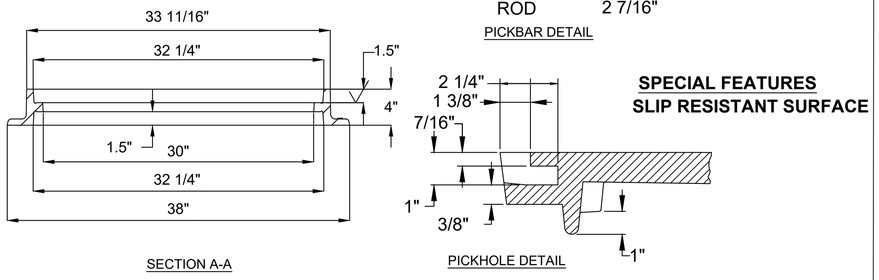
1. MANHOLE LIDS SHALL HAVE PICK SLOTS ONLY.
2. M.H. IN STREET GUTTERS AND LOW POINTS SHALL BE BOLTED DOWN, GASKETED, AND WATER TIGHT.
3. MANHOLE COVERS SHALL BE COATED WITH WATER BASED ASPHALTIC PAINT AND IT SHALL MEET ANSI-NSF STD6 COATING. IT MAY BE SPRAY APPLIED AT 5MILS WET FILM THICKNESS OR DIPPED AND CURED 3MILS DRY FILM THICKNESS.



DESIGN FEATURES
MATERIALS:
COVER-DUCTILE IRON ASTM A536
FRAME-GRAY IRON ASTM A48 CL35B
DESIGN LOAD:
HEAVY DUTY
COATING:
UNDIPPED
OPEN AREA
N/A



PICKBAR DETAIL

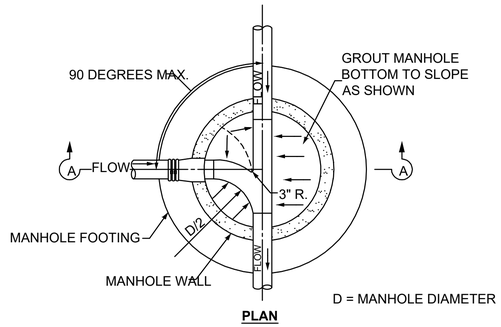


SECTION A-A

PICKHOLE DETAIL

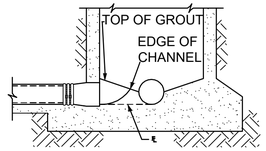
SPECIAL FEATURES
SLIP RESISTANT SURFACE

MANHOLE RING & COVER
N.T.S.



PLAN

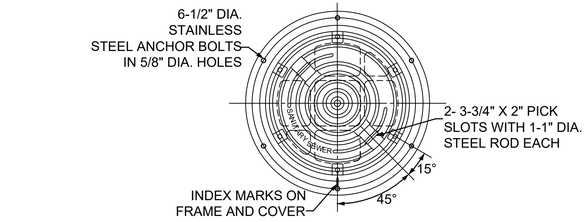
D = MANHOLE DIAMETER



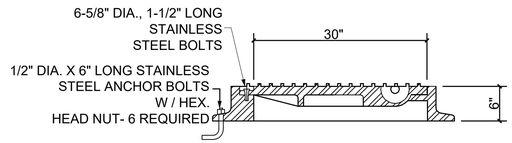
SECTION A-A

NOTES FOR WASTEWATER MANHOLE LINE INTERSECTION:
1. REFER TO MANHOLE STANDARD DRAWINGS FOR ADDITIONAL DETAIL OF MANHOLE.

WASTEWATER MANHOLE LINE INTERSECTION



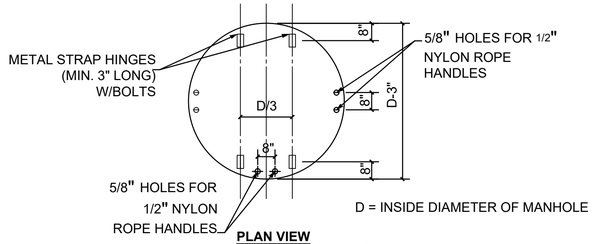
ASSEMBLY PLAN VIEW



ASSEMBLY CROSS SECTION

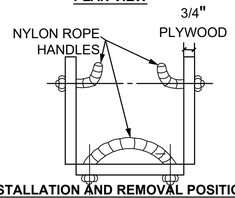
NOTES:
1. THE HORIZONTAL BEARING SURFACES ARE TO BE MACHINE FINISHED
2. FOR A SEAL BETWEEN THE RING FRAME AND COVER A $\frac{1}{4}$" DIA. NEOPRENE "O-RING GASKET SHALL BE INSTALLED BY THE MANUFACTURER. THE LOCATION SHALL BE AS PER THE MANUFACTURER'S STANDARDS BUT SHALL BE SUBJECT TO THE APPROVAL OF THE CITY.
3. THE SOLID LID WILL BE PROVIDED WITH MANUFACTURER'S STANDARD LETTERING SHOWING "SANITARY SEWER"
4. NOT ALLOWED IN TRAFFIC AREA.

PRESSURE MANHOLE LID AND FRAME



PLAN VIEW

D = INSIDE DIAMETER OF MANHOLE



INSTALLATION AND REMOVAL POSITION

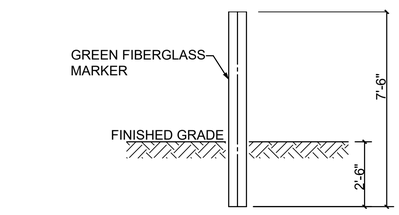
INSTALLATION

FALSE MANHOLE BOTTOM SHALL BE FURNISHED AND INSTALLED IN ALL MANHOLES CONSTRUCTED IN ADVANCE OF PAVING. THESE FALSE MANHOLE BOTTOMS WILL BE INSTALLED AT A TIME DIRECTED BY THE CITY BUT WILL USUALLY BE AFTER ALL WORK IS COMPLETED ON THE WASTEWATER SYSTEM INCLUDING THE AIR TEST, BUT PRIOR TO THE FINAL INSPECTION

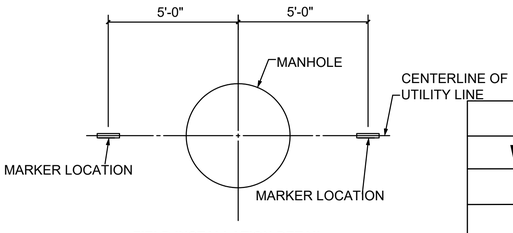
REMOVAL

FALSE MANHOLE BOTTOM SHALL BE REMOVED AFTER THE FINAL APPURTENANCE ADJUSTMENT INSPECTION, THE PAVING CONTRACTOR AND CITY INSPECTOR WILL COORDINATE THE REMOVAL OF THE FALSE MANHOLE BOTTOMS.

WASTEWATER MANHOLE FALSE BOTTOM

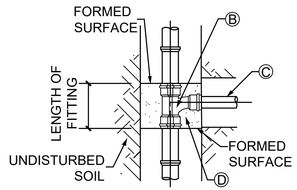


ELEVATION

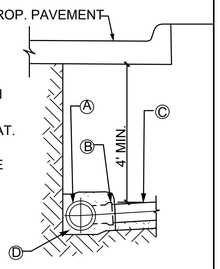


FIELD INSTALLATION DETAIL

OFFSITE WASTEWATER MARKER



PLAN VIEW



KEY:
- (A) WASTEWATER MAIN
- (B) 4" WYE
- (C) 4" WASTEWATER LAT. (LENGTH VARIES)
- (D) CLASS B CONCRETE

SECTION VIEW

NOTES FOR WASTEWATER LATERAL:
1. REFERENCE TECHNICAL SPECIFICATION 333109

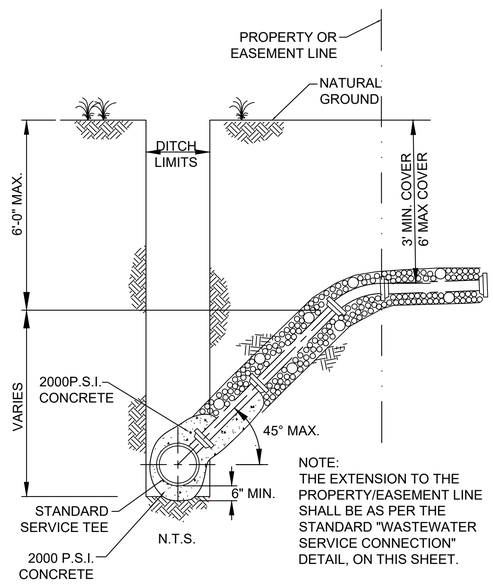
WASTEWATER LATERAL

CITY OF CELINA
WASTE WATER DETAILS 2
STANDARD DETAILS

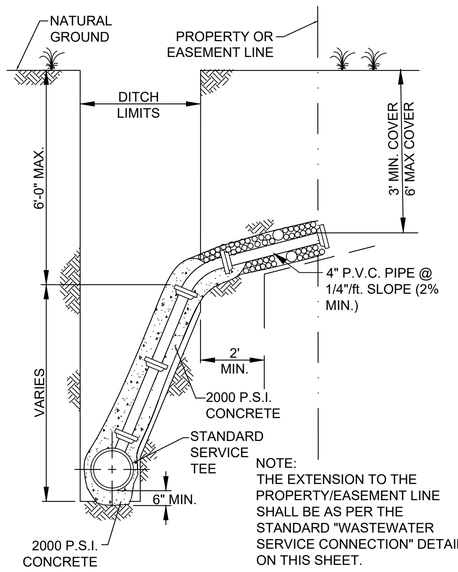
CELINA TEXAS est. 1876

DESIGNED BY: G.F	REV.	BY	DATE	SYMBOL
DRAWN BY: J.P				JOB NO.:
CHECKED BY: G.F				SHEET NO.: WW- 2

DATE: JANUARY 2016

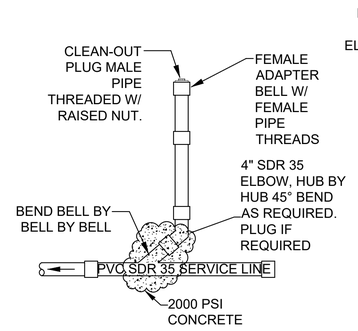


STANDARD DEEP CUT CONNECTION



STACKED DEEP CUT CONNECTION

N.T.S.

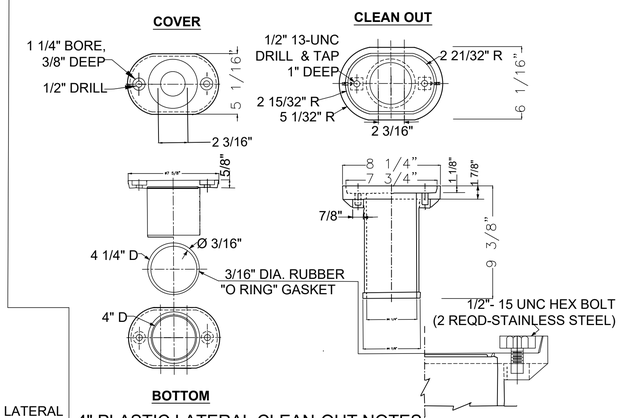


WASTEWATER SERVICE CLEAN-OUT NOTES:

1. FOR NEW DEVELOPMENT EXTEND PVC CLEAN-OUT ABOVE FINISHED GRADE WITH PLUG.
2. AT THE TIME OF SERVICE CONNECTION THE CLEAN-OUT EXTENSION SHALL BE ADJUSTED AND THE LATERAL CLEAN-OUT COVER INSTALLED AT THE FINISHED GROUND ELEVATION.
3. ALL FITTINGS SHALL BE SOLVENT WELD
4. ALL FITTINGS SHALL BE PVC SDR 35 OR SCHEDULE 40
5. CENTER LINE OF CLEAN-OUTS TO BE PLACED 6 INCHES INSIDE CITY RIGHT-OF-WAY LINE UNLESS SPECIFIED OTHERWISE.
6. ALL NEW SERVICE LATERALS SHALL HAVE CLEAN-OUTS AS PER STANDARD WASTEWATER SERVICE CONNECTION (SHOWN ON THIS SHEET)
7. CLEANOUTS FOR NEW CONSTRUCTION ARE NOT ALLOWED INSIDE DRIVEWAYS.

WASTEWATER SERVICE CLEAN-OUT DETAILS

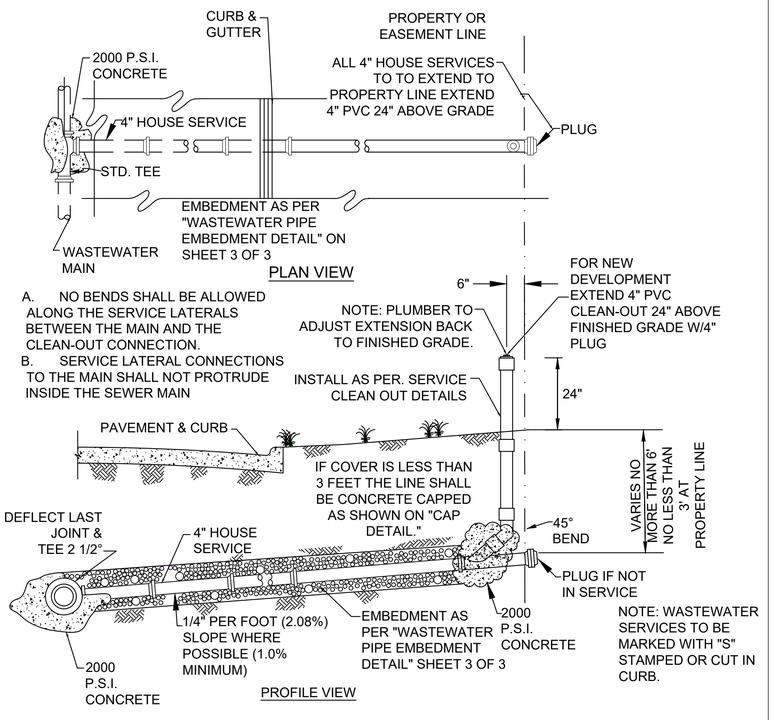
N.T.S.



4" PLASTIC LATERAL CLEAN-OUT NOTES:

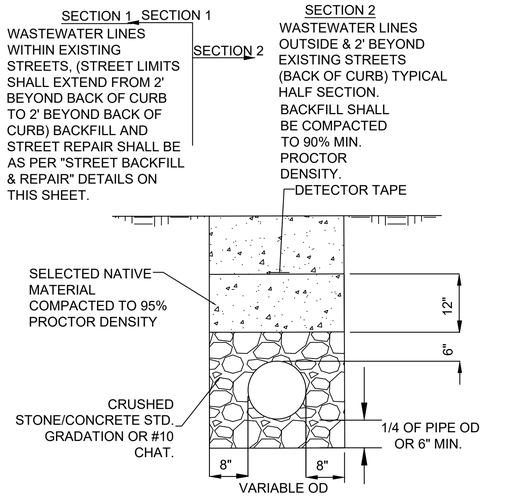
1. CLEANOUTS TO BE FURNISHED AND PLACED IN AREAS WITH NO VEHICULAR TRAFFIC
2. SLOPE OF LATERAL TO BE 2% MINIMUM
3. THE WASTEWATER LATERAL SHALL BE CONNECTED TO BUILDING LATERAL AND CONSTRUCTED IN SUCH A WAY AS TO CLEAR EXISTING AND PROPOSED UTILITIES.
4. THE MAINLINE LATERAL CONNECTION TO THE PRIVATE BUILDING LATERAL SHALL BE AS CLOSE TO THE PROPERTY LINE AS POSSIBLE
5. INSTALL 4" STOPPER OR CAP AT PROPERTY LINE IF BUILDING LATERAL DOES NOT EXIST.

WASTEWATER LATERAL CLEANOUT FRAME AND COVER

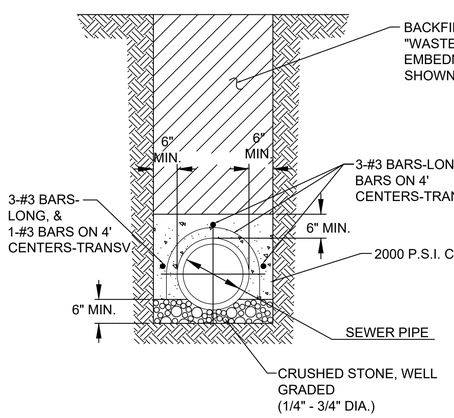


STANDARD RESIDENTIAL WASTEWATER SERVICE CONNECTION

N.T.S.

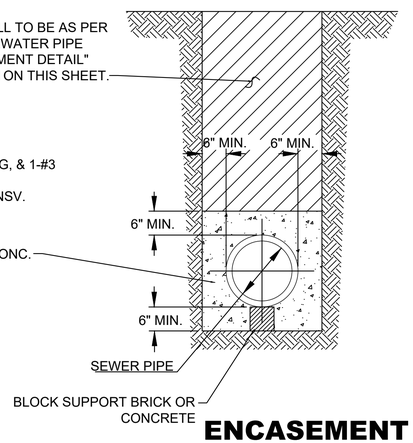


WASTEWATER PIPE EMBEDMENT DETAIL



CAP DETAIL

N.T.S.



ENCASEMENT DETAIL

N.T.S.

CITY OF CELINA

WASTE WATER DETAILS 3

STANDARD DETAILS

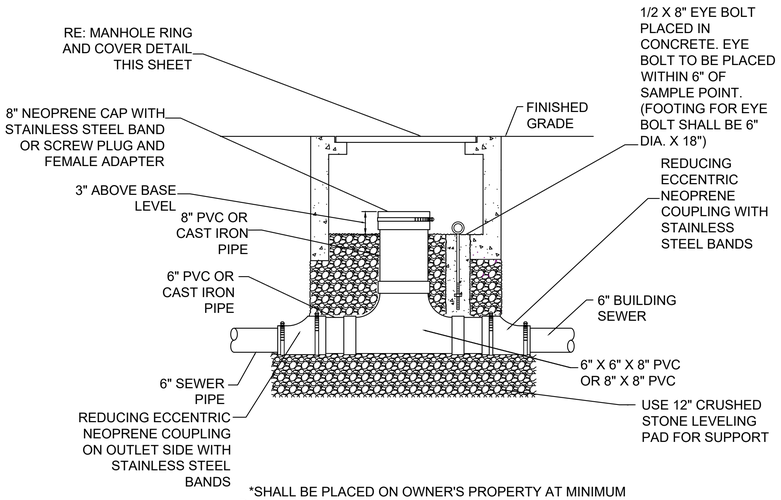
CELINA TEXAS est.1876

DESIGNED BY: G.F	REV.	BY	DATE	SYMBOL
DRAWN BY: J.P				JOB NO.:
CHECKED BY: G.F				SHEET NO.: WW- 3

DATE: JANUARY 2016

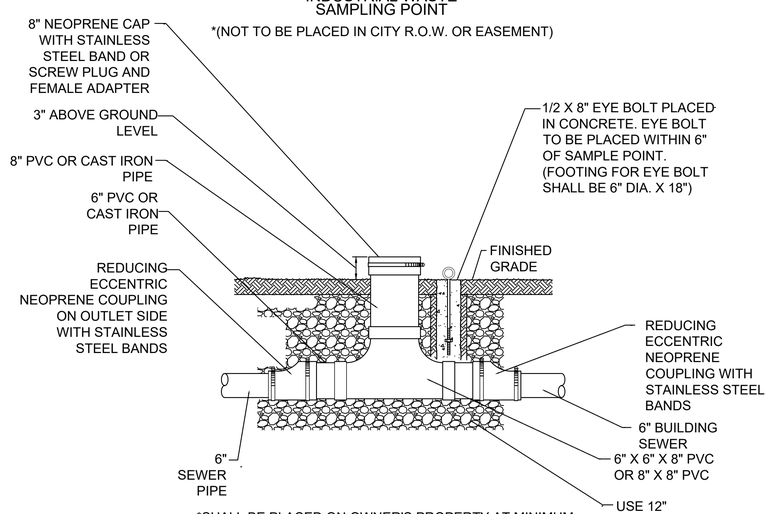
P-201511-02

INDUSTRIAL WASTE
SAMPLING POINT IN PAVED AREA
*(NOT TO BE PLACED IN CITY R.O.W. OR EASEMENT)



*SHALL BE PLACED ON OWNER'S PROPERTY AT MINIMUM DISTANCE OF FOUR (4') FEET FROM R.O.W./EASEMENT LINE INDUSTRIAL WASTE SAMPLE POINT DOES NOT REPLACE THE CITY CLEAN-OUT

INDUSTRIAL WASTE
SAMPLING POINT
*(NOT TO BE PLACED IN CITY R.O.W. OR EASEMENT)



*SHALL BE PLACED ON OWNER'S PROPERTY AT MINIMUM DISTANCE OF FOUR (4') FEET FROM R.O.W./EASEMENT LINE INDUSTRIAL WASTE SAMPLE POINT DOES NOT REPLACE THE CITY CLEAN-OUT

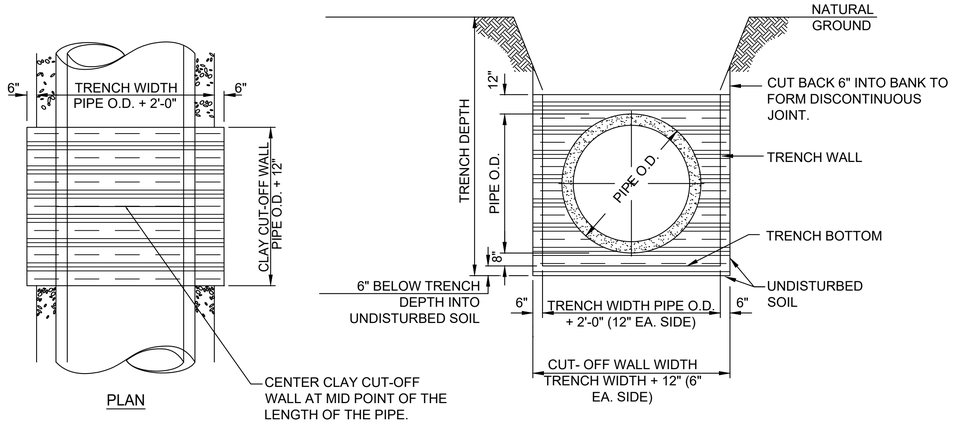
INDUSTRIAL WASTEWATER SAMPLING POINT

WASTEWATER GENERAL NOTES:

A. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS OF THE CITY OF CELINA, WHICH HAS ALSO ADOPTED THE LATEST EDITION OF THE "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION - NORTH CENTRAL TEXAS" HEREIN REFERRED TO AS "N.C.T.C.O.G." SPECIFICATIONS. COPIES MAY BE OBTAINED FROM THE NORTH CENTRAL TEXAS COUNCIL OF GOVERNMENTS, 616 SIX FLAGS DRIVE, SUITE 200, ARLINGTON, TEXAS 76005-5888. 817 640-3300. THESE SPECIFICATIONS ARE ALSO AVAILABLE AT WWW.PUBLICWORKS.DFWINFO.COM
B. PLEASE ALSO REFER TO N.C.T.C.O.G. ITEM 501, 502, 503, 504, 505, 507 AND 509 SPECIFICATIONS.
C. CONTRACTOR SHALL CONTACT PUBLIC WORKS DEPARTMENT FOR THE REMOVAL OF CITY SIGNS IN RIGHT-OF-WAY.

PIPE:

A. POLYVINYL CHLORIDE (PVC) WASTEWATER PIPE
   1. PVC NON-PRESSURE RATED GRAVITY WASTEWATER MAINS FROM 6" TO 15" IN DIAMETER SHALL BE SDR 35 (IF LESS THAN 15' DEEP) OR SDR 26 (IF 15' OR DEEPER) (ASTM D3034).
   2. PVC NON-PRESSURE RATED GRAVITY WASTEWATER MAINS 18" IN DIAMETER AND GREATER SHALL HAVE A MINIMUM PIPE STIFFNESS OF 46 PSI OR 115 PSI AND BE MANUFACTURED IN ACCORDANCE WITH ASTM F679 (SOLID WALL).
   3. PVC PRESSURE RATED GRAVITY WASTEWATER MAINS AND FORCE MAINS FROM 6" TO 12" IN DIAMETER SHALL BE SDR 26 (ASTM D2241) WITH A MINIMUM PRESSURE RATING OF 160 PSI.
   4. PVC PRESSURE RATED GRAVITY WASTEWATER MAINS AND FORCE MAINS GREATER THAN 12" IN DIAMETER SHALL BE AWWA C905 DR25 WITH A MINIMUM PRESSURE RATING OF 165 PSI.
   5. PVC PROFILE WALL PIPE WILL NOT BE ALLOWED.
B. VITRIFIED CLAY PIPE WILL NOT BE ALLOWED.
C. FITTINGS
   2. ALL FITTINGS SHALL BE RUBBER GASKET PUSH ON TYPE.
   3. ALL FITTINGS SHALL BE BLOCKED AS PER THE DETAILS
   4. ALL PIPE CONNECTIONS FITTINGS SUCH AS ADAPTORS AND COUPLINGS SHALL BE COMPATIBLE WITH THE SAME PIPE MATERIAL. FLEXIBLE ADAPTORS AND COUPLINGS SHALL NOT BE PERMITTED UNLESS PRE-APPROVED BY THE ENGINEER.
A. FOR AERIAL CROSSINGS, UN-ENCASED PIPE SHALL BE DUCTILE IRON CLASS 52 WITH POLYETHYLENE LINER. ALL BURIED SECTION OF THE DUCTILE IRON PIPE SHALL BE WRAPPED WITH 8 MIL. POLYWRAP.
B. EMBEDMENT SHALL BE AS PER THE "WASTEWATER PIPE EMBEDMENT DETAIL"
C. THE MINIMUM COVER OVER ALL WASTEWATER MAINS IS 4 FEET, UNLESS APPROVED OTHERWISE BY THE CITY ENGINEER. APPROVED MAINS WITH LESS THAN 3.5 FEET OF COVER SHALL BE CAPPED AS PER THE "CAP DETAIL" ON THIS SHEET.
D. CLAY CUT-OFF WALLS SHALL BE CONSTRUCTED AS PER THE DETAILS AND SPECIFICATIONS ON THIS SHEET.
E. STORAGE: WHEN EXPOSURE IN EXCESS OF SIX MONTHS TO DIRECT SUNLIGHT IS ANTICIPATED, PVC PIPE SHOULD BE COVERED WITH AN OPAQUE MATERIAL WHILE PERMITTING ADEQUATE AIR CIRCULATION ABOVE AND AROUND THE PIPE AS REQUIRED PREVENTING EXCESSIVE HEAT ACCUMULATION.
F. CASINGS: WHEN PVC WASTEWATER PIPE IS INSTALLED IN CASING, SPACERS MUST BE USED TO PREVENT DAMAGE TO THE PIPE AND BELL DURING INSTALLATION. PVC PIPE SHALL NOT REST ON THE BELLS.
G. PLACE PIPE WITH LETTERING FACING UP ON TOP OF PIPE
H. MAXIMUM PIPE DEFLECTION SHALL BE AS RECOMMENDED BY MANUFACTURER
I. ALL PROPERTY CORNERS SHALL BE STAKED WITH IRON RODS PRIOR TO THE INSTALLATION.
J. WASTEWATER SERVICES. THE LOCATIONS OF THE WASTEWATER SERVICE SHALL BE STAKED ACCORDING TO THE PLANS.
K. COMMERCIAL AND INDUSTRIAL LOCATIONS SHALL HAVE 6" SERVICE CONNECTED AT A MANHOLE AND A CLEAN-OUT AT THE PROPERTY OR EASEMENT LINE.
L. WASTEWATER SERVICES TO BE MARKED WITH "S" STAMPED OR CUT IN THE CURB. PLEASE ALSO REFER TO THE DETAILS AND NOTES ON THIS SHEET.



CLAY CUT-OFF WALL NOTES:

1. CLAY CUT-OFF WALLS SHALL BE CONSTRUCTED AT APPROXIMATELY 250 FOOT INTERVALS ALONG ALL WASTEWATER MAIN INSTALLATIONS BETWEEN MANHOLES.
2. THE CLAY CUT-OFF WALL SHALL BE PLACED AT THE MID POINT OF THE LENGTH OF THE PIPE BEING PLACED, BUT NOT AT A LOCATION WHERE A LATERAL OR SERVICE CONNECTS TO THE MAIN. THE MINIMUM CLEARANCE IS 10 FEET.
3. MATERIAL FOR CLAY CUT-OFF WALL TO BE CLEAN MATERIAL WITH NO LUMPS LARGER THAN 3". CLAY TO HAVE P.I. OF 30 TO 4MATERIAL TO BE PLACED IN LIFTS, MOISTENED TO OPTIMUM MOISTURE CONTENT AND COMPACTED WITH HAND HELD MECHANICAL TAMPERS, WITHOUT DAMAGING THE PIPE.

CLAY CUT-OFF WALL
N.T.S.

MANHOLES:

A. ONLY CONCRETE PRECAST MANHOLES ARE APPROVED FOR USE ON THE MAIN AND AT THE ENDS OF THE PIPE.
B. MANHOLES SHALL BE INSTALLED AT ALL CHANGES IN GRADE AND DIRECTION, AND HAVE A MAXIMUM SPACING OF 500'.
C. NO CLEANOUTS WILL BE PROVIDED AT DEAD ENDS OF WASTEWATER MAIN INSTEAD A MANHOLE SHALL BE LOCATED AT THE END OF A WASTEWATER MAIN AND THE LAST TWO SERVICE LINES DIRECTED INTO THE MANHOLE.
D. MANHOLE BRACES PLACED ON EXISTING ACTIVE MAINS SHALL BE POURED IN PLACE UNLESS WRITTEN PERMISSION IS GRANTED BY THE CITY OF CELINA OR SPECIFICALLY NOTED IN THE PLANS.
E. PLEASE ALSO REFER TO THE DETAILS AND NOTES ON THIS SHEET AND N.C.T.C.O.G. ITEM 502.1. SPECIFICATIONS.
F. ALL MANHOLES SHALL BE MINIMUM 6-SACK 4,000 P.S.I SULPHATE RESISTANT CONCRETE. SUCH AS: TYPE II OR TYPE V CEMENT.

TESTING:

A. THE FOLLOWING TESTS SHALL BE PERFORMED BY THE CONTRACTOR:
1. LOW PRESSURE AIR TESTING AS PER N.C.T.C.O.G. ITEM 507.5.1.3 SPECIFICATIONS.
2. DEFLECTION TEST AS PER N.C.T.C.O.G. ITEM 507.5.1.4. SPECIFICATIONS.
3. TELEVISING SHALL BE AS PER THE N.C.T.C.O.G. ITEM 507.5.2. PRIOR TO PLACING PAVEMENT.
4. ALL T.V. INSPECTIONS OF EXISTING OR PROPOSED PIPES SHALL BE PROVIDED ON DVD.

B. PLEASE REFER TO THE STANDARD GENERAL TESTING REQUIREMENTS FOR WATER, WASTEWATER, STORM DRAIN AND PAVEMENT CONSTRUCTION DETAIL SHEET.
C. THE CITY WILL PROVIDE BACKFILL, DENSITY AND CONCRETE TESTING FOR ALL CITY PROJECTS UNLESS SPECIFIED OTHERWISE. ALL REPORTS SHALL BE TURNED TO THE INSPECTOR WITHIN FIVE (5) WORKING DAYS.

MATERIAL:

ALL MATERIAL INCORPORATED IN THE CONSTRUCTION SHALL BE NEW.

PRIVATE DEVELOPMENT PROJECTS:

THE DEVELOPER/OWNER SHALL PROVIDE ESCROW FUNDS FOR GEOTECHNICAL AND MATERIAL TESTING FOR BACKFILL, DENSITY AND CONCRETE TESTING PRIOR TO BEGINNING ANY CONSTRUCTION.

CITY OF CELINA

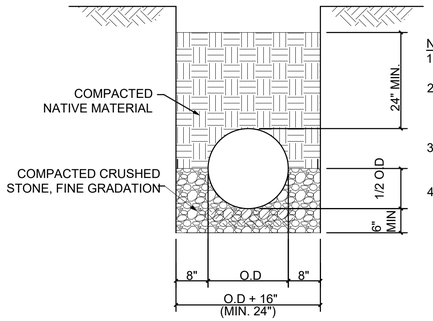
WASTE WATER DETAILS 4

STANDARD DETAILS

CELINA TEXAS est.1876

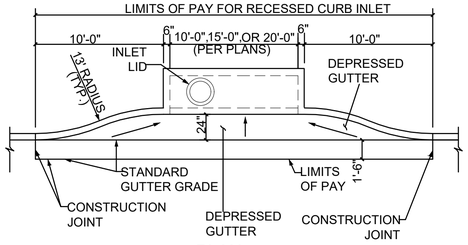
DESIGNED BY: G.F	REV.	BY	DATE	SYMBOL
DRAWN BY: J.P				JOB NO.:
CHECKED BY: G.F				SHEET NO.: WW- 4

DATE: JANUARY 2016



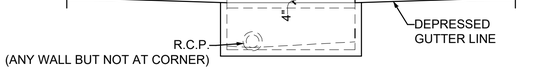
NOTES:
1. EMBEDMENT FOR RCP STORM DRAIN INSTALLATION
2. REFER TO TECH. SPEC. 330510; TRENCHING, BACKFILLING AND COMPACTION.
3. BEDDING DEPTH MEASURED FROM OUTSIDE THE PIPE BELL.
4. FINAL BACKFILL MOISTURE TREATED TO 3% ABOVE OPTIMUM AT 95% STANDARD PROCTOR.

EMBEDMENT FOR STORM SEWER LINES



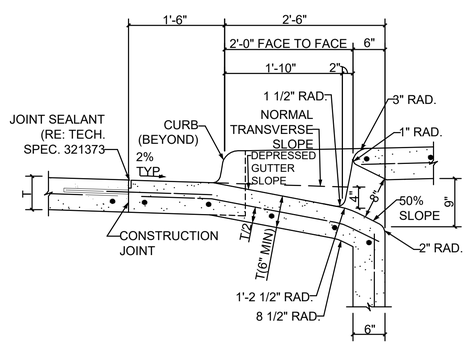
PLAN

NOTES
1. TOP OF INLET TO SLOPE 2% TOWARDS STREET OF PER PLAN
2. CENTER SUPPORT BEAM REQUIRED FOR 15' AND 20' STANDARD CURB INLETS.
3. ADDITIONAL REINFORCING STEEL TO BE PLACED AROUND MANHOLE OPENING.



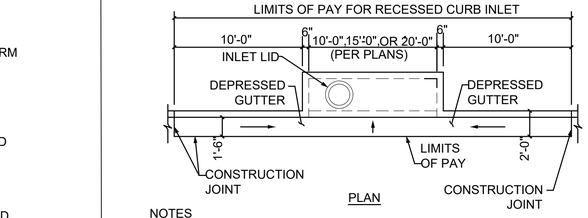
PROFILE

NOTE:
1. MANHOLE TO BE PLACED AT LOW END OF INLET. TWO MANHOLES ARE REQUIRED ON 15FEET AND 20FEET INLETS ONLY IF THE INSIDE HEIGHT OF THE INLETS IS LESS THAN 4 FEET.



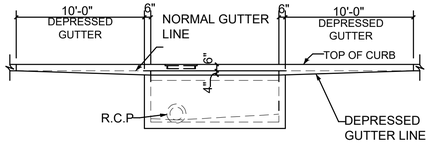
THROAT SECTION

RECESSED CURB INLET



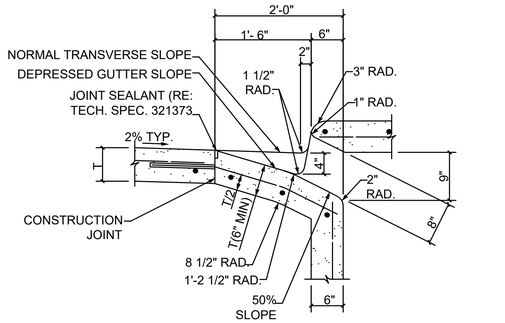
PLAN

NOTES
1. TOP OF INLET TO SLOPE 2% TOWARDS STREET OF PER PLAN
2. CENTER SUPPORT BEAM REQUIRED FOR 15' AND 20' STANDARD CURB INLETS.
3. ADDITIONAL REINFORCING STEEL TO BE PLACED AROUND MANHOLE OPENING.



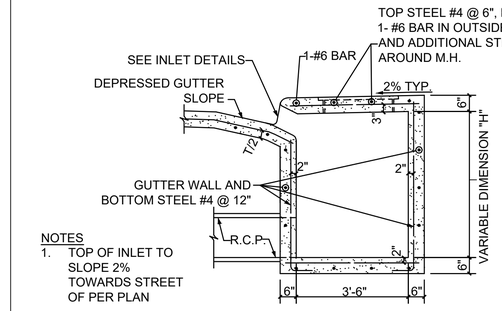
PROFILE

NOTE:
1. MANHOLE TO BE PLACED AT LOW END OF INLET. TWO MANHOLES ARE REQUIRED ON 15FEET AND 20FEET INLETS ONLY IF THE INSIDE HEIGHT OF THE INLETS IS LESS THAN 4 FEET.



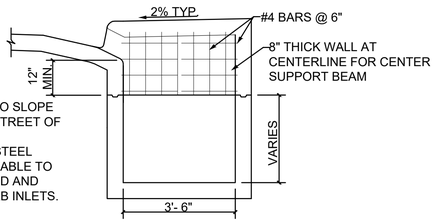
THROAT SECTION

STANDARD CURB INLET



NOTES
1. TOP OF INLET TO SLOPE 2% TOWARDS STREET OF PER PLAN

INLET SECTION FOR RECESSED AND STANDARD INLETS

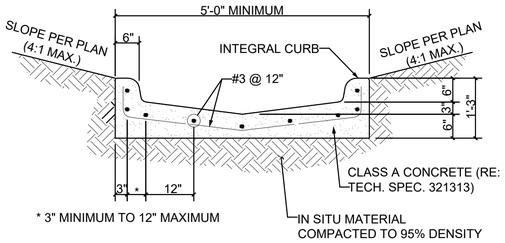


NOTES:
1. TOP OF INLET TO SLOPE 2% TOWARDS STREET OF PER PLAN
2. REINFORCING STEEL LAYOUT APPLICABLE TO BOTH RECESSED AND ON-GRADE CURB INLETS.

CENTER SUPPORT BEAM FOR 15' & 20' RECESSED AND STANDARD INLETS

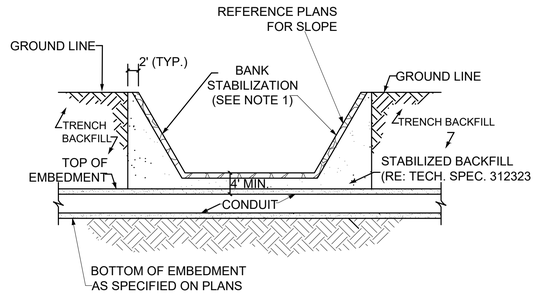
CENTER SUPPORT BEAM & INLET SECTION FOR RECESSED AND STANDARD INLETS

GENERAL NOTES CURB INLET:
1. ALL CONCRETE SHALL BE CLASS A
2. ALL REINFORCING STEEL SHALL BE NEW BILLET STEEL CONFORMING TO ASTM A-615
3. CHAMFER ALL EXPOSED CORNERS 3/4" EXCEPT WHERE OTHERWISE NOTED.
4. DIMENSIONS RELATING TO REINFORCING STEEL ARE TO CENTERS OF BARS
5. FIELD CUT AND BEND BARS ARE NECESSARY TO ACCOMMODATE STORM SEWER PIPE
6. ALL REINFORCING STEEL SHALL HAVE A MINIMUM COVER OF 2"
7. RECESSED CURB INLETS SHALL BE REQUIRED UNLESS APPROVED OTHERWISE BY THE CITY ENGINEER.
8. ROCK FOUNDATION SHALL BE USED DURING PREFABRICATED INLET BOX INSTALLATION. 6" FOR BACKFILL WITH FLOWABLE FILL TO FILL VOIDS OR COMPACT WITH SELECT SURPLUS EXCAVATION COMPACTED IN 8" LIFTS TO 95% STANDARD PROCTOR DENSITY.
9. STANDARD CURB INLET SIZES ARE 10
10. GRATE INLETS ARE NOT ALLOWED UNLESS APPROVED OTHERWISE BY THE CITY



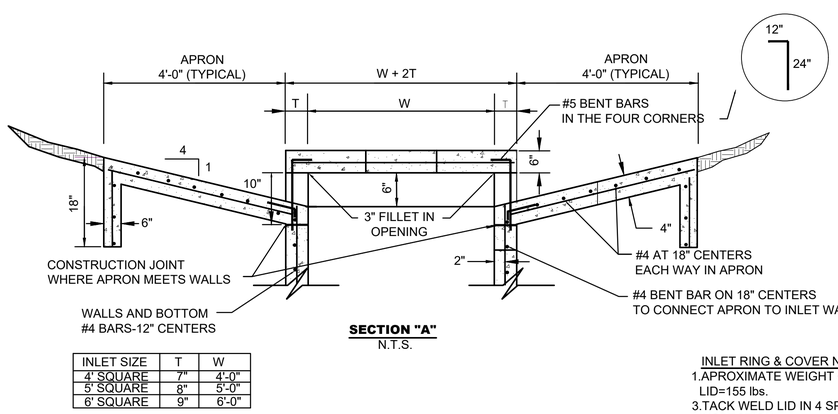
NOTES:
1. IF FLUME IS 7 FEET OR WIDER, INSTALL 7'X 6" DIAMETER STEEL BOLLARDS (FILLED WITH CONCRETE) BURIED TO 4 FEET DEPTH AT BOTH START AND END OF FLUME.
2. SLOPES SHALL BE STABILIZED WITH VEGETATION OR OTHER APPROVED METHODS.

CURBED FLUME



NOTE:
1. BANK STABILIZATION SHALL BE DESIGNED AND SPECIFIED ON THE PLANS IN ACCORDANCE WITH NCTCOG iSWM DESIGN MANUAL

INFILTRATION PROTECTION CONDUIT UNDER CHANNEL

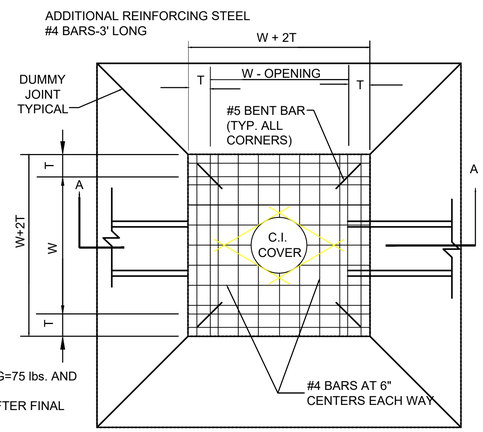


SECTION "A"
N.T.S.

INLET SIZE	T	W
4' SQUARE	7"	4'-0"
5' SQUARE	8"	5'-0"
6' SQUARE	9"	6'-0"

DROP INLET

N.T.S.



PLAN OF TOP SLAB
N.T.S.

INLET RING & COVER NOTES:
1. APROXIMATE WEIGHT OF RING=75 lbs. AND LID=155 lbs.
3. TACK WELD LID IN 4 SPOTS AFTER FINAL INSPECTION

NOTES FOR DROP INLET:
REINFORCING STEEL SHALL BE #4 BARS ON 18" CENTERS BOTH WAYS FOR BOTTOM SLAB AND WALLS, AND #4 BARS ON 6" CENTERS BOTH WAYS FOR TOP SLAB. ADDITIONAL REINFORCING STEEL SHALL BE PLACED AROUND MANHOLES AS SHOWN.
1. ALL REINFORCING STEEL SHALL BE GRADE 60.
2. ALL CONCRETE SHALL BE CLASS "A" 4000 PSI AT 28 DAYS
3. ALL EXPOSED CORNERS SHALL BE CHAMFERED 3/4"
4. ALL REINFORCING STEEL SHALL HAVE A MINIMUM COVER OF 2" ON INSIDE FACE WALL.
5. ALL BACKFILLING SHALL BE PERFORMED BY MECHANICAL TAMPING TO 95% STANDARD PROCTOR DENSITY.
6. ALL DROP INLETS SHALL HAVE ONE OPENING ON EACH SIDE UNLESS OTHERWISE SHOWN ON PLANS.8. LIGHT BROOM FINISH ON ALL SURFACES.

CITY OF CELINA

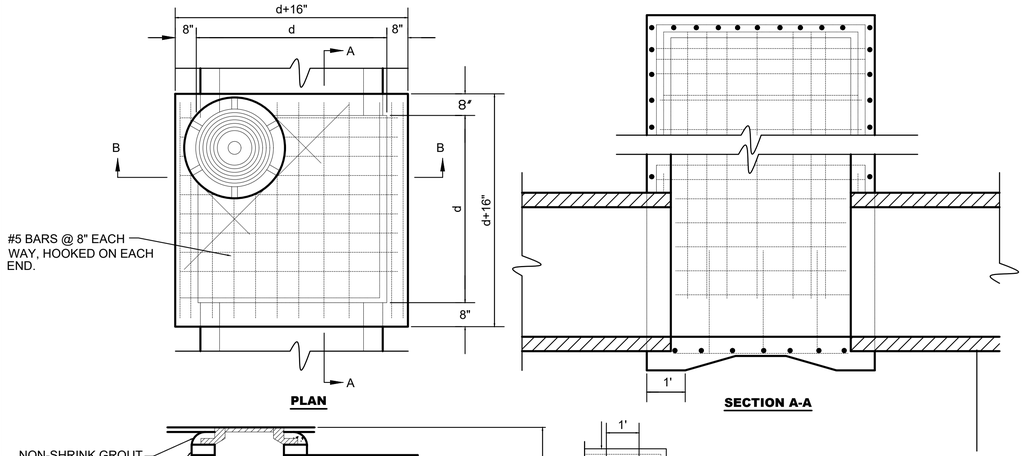
STORM DRAIN DETAILS 1

STANDARD DETAILS

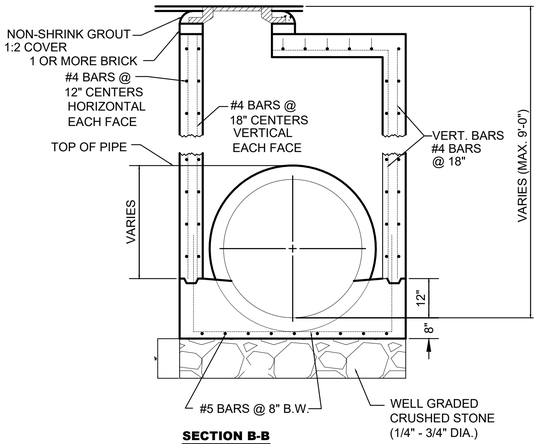
CELINA TEXAS est.1879

DESIGNED BY: G.F	REV.	BY DATE	SYMBOL DATE: JANUARY 2016
DRAWN BY: J.P			JOB NO.:
CHECKED BY: G.F			SHEET NO.: SD- 1

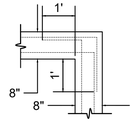
P-201511-02



PLAN **SECTION A-A**



SECTION B-B (ELEV.)



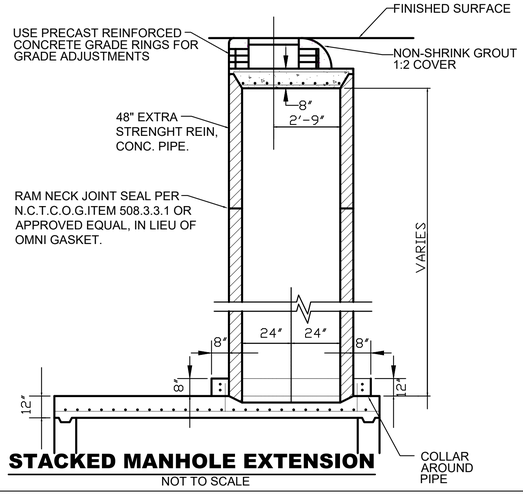
CORNER

PIPE SIZES	d
24"-39"	5'
42"-48"	6'
54"-60"	7'
66"-72"	8'

TYPE "B" MANHOLE

NTS

NO.	PIPE SIZES	a	b	c	d	e	f
1	18"-24"	4'-5 1/2"	4'-5 1/2"	4'-2"	4'-2"	3'-6 1/2"	2'-5"
2	27"-33"	4'-11 5/8"	4'-11 5/8"	5'-1"	5'-1"	3'-6 3/8"	2'-8"
3	36"-42"	5'-5 5/8"	5'-5 5/8"	5'-11 1/4"	5'-11 1/4"	3'-6 3/8"	2'-11"
4	48"-54"	6'-1 3/4"	6'-1 3/4"	7'-1 1/4"	7'-1 1/4"	3'-6 1/2"	3'-3"
5	60"-66"	6'-9 7/8"	5'-9 7/8"	8'-3 1/4"	8'-3 1/4"	3'-6 1/2"	3'-7"
6	72"-78"	7'-6"	7'-6"	9'-5 1/4"	9'-5 1/4"	3'-6 1/2"	3'-11"
7	84"-96"	8'-6 1/8"	8'-6 1/8"	11'-2 1/4"	11'-2 1/4"	3'-6 1/2"	4' 5 1/2"



STACKED MANHOLE EXTENSION

NOT TO SCALE

NOTES FOR STORM DRAIN MANHOLES:

(A) ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS OF THE CITY CELINA, WHICH HAS ALSO ADOPTED THE LATEST EDITION OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION - NORTH CENTRAL TEXAS HEREIN REFERRED TO AS N.C.T.C.O.G. SPECIFICATIONS. COPIES MAY BE OBTAINED FROM THE NORTH CENTRAL TEXAS COUNCIL OF GOVERNMENTS, 616 SIX FLAGS DRIVE, SUITE 200, ARLINGTON, TEXAS 76005-5888. (817) 640-3300. THESE SPECIFICATIONS ARE ALSO AVAILABLE AT WWW.PUBLICWORKS.DFWINFO.COM

(B) ALL MANHOLES SHALL BE POURED IN PLACE. PRECAST JUNCTION BOXES OR MANHOLES ARE NOT ALLOWED UNLESS SHOP DRAWINGS ARE PRE-APPROVED BY THE CITY ENGINEER.

(C) CONCRETE SHALL BE MADE WITH A MINIMUM OF 5 1/2 SACKS OF CEMENT AND HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI AT 28 DAYS.

(D) ALL REINFORCING STEEL SHALL BE NEW, NEAT, BILLET-STEEL PER ASTM DESIGNATION A-615, GRADE 60, AND SHALL BE DETAILED AND PLACED PER ACI MANUALS SP-88 AND 318, LATEST ADDITIONS. ALL REINFORCING STEEL SHALL HAVE MINIMUM 15 INCH LAP SPLICES, UNLESS NOTED OTHERWISE ON THE PLANS.

(E) THE CONTRACTOR SHALL USE A LIQUID MEMBRANE-FORMING CURING COMPOUND PER N.C.T.C.O.G. ITEM 2.2.11(1).

(F) LIGHT BROOM FINISH REQUIRED ON ALL EXPOSED MANHOLE TOPS.

(G) MANHOLE FRAME AND COVER SHALL BE INSTALLED AS PER THE DETAILS ON THIS SHEET.

(H) STACKED MANHOLE EXTENSION SHALL BE INSTALLED, WHERE SPECIFIED ON THE PLANS AND AS PER THE DETAILS ON THIS SHEET.

(I) MANHOLES SHALL BE CONSTRUCTED PER DETAILS ON THIS SHEET AND N.C.T.C.O.G. ITEM 6.7.4.1(F).

(J) SOIL TESTING TECHNICIAN MUST PROVIDE WRITTEN PROOF OF 18-24 MONTHS OF RELATED FIELD EXPERIENCE.

(K) PREFABRICATED ROUND MANHOLES SHALL CONFORM TO ASTM C478 SPECIFICATIONS.

(L) PREFABRICATED SQUARE MANHOLES SHALL CONFORM TO ASTM C890 AND ASTM C913 SPECIFICATIONS.

(M) ALL UTILITY DITCH LINES WITHIN CITY R.O.W. OR EASEMENT SHALL BE TESTED AT A FREQUENCY OF ONE DENSITY PER 6"-8" LIFTS (NOT TO EXCEED 12") AT STAGGERED 100' INTERVALS. ALL LATERALS OR SERVICES SHALL HAVE A MINIMUM OF ONE DENSITY TEST PER FOOT OF LIFT. THE INSPECTOR SHALL HAVE THE RIGHT TO REQUEST ADDITIONAL RANDOM TESTS AS HE/SHE DEEMS NECESSARY.

(N) ALL MATERIAL INCORPORATED IN THE CONSTRUCTION SHALL BE NEW.

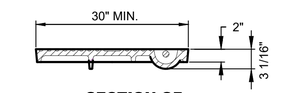
(O) CONTRACTOR SHALL CONTACT TRANSPORTATION DEPARTMENT FOR THE REMOVAL OF CITY SIGNS IN RIGHT-OF-WAY.

(P) PLEASE REFER TO THE STANDARD GENERAL TESTING REQUIREMENTS FOR WATER, WASTEWATER, STORM DRAIN AND PAVEMENT CONSTRUCTION DETAIL SHEET.

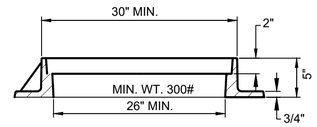
(Q) THE CITY WILL PROVIDE BACKFILL, DENSITY AND CONCRETE TESTING FOR ALL PROJECTS UNLESS SPECIFIED OTHERWISE. ALL REPORTS SHALL BE TURNED INTO THE INSPECTOR WITHIN FIVE (5) WORKING DAYS.

(R) PRIVATE DEVELOPMENT PROJECTS:

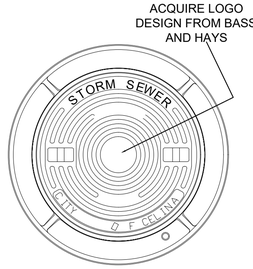
THE DEVELOPER/OWNER SHALL PROVIDE ESCROW FUNDS FOR GEOTECHNICAL AND MATERIAL TESTING FOR BACKFILL, DENSITY AND CONCRETE TESTING PRIOR TO BEGINNING ANY CONSTRUCTION.



SECTION OF MANHOLE COVER
NOT TO SCALE



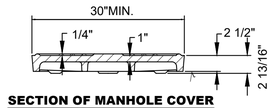
FRAME
NOT TO SCALE



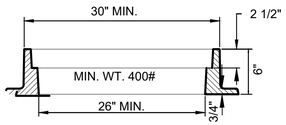
NON-TRAFFIC RATED MANHOLE RING & COVER DETAIL

MANHOLE RING AND COVER NOTES:

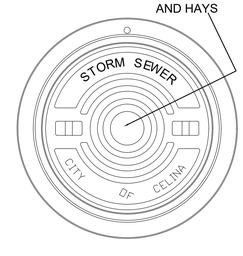
1. MANHOLE LIDS SHALL HAVE PICK SLOTS ONLY
2. M.H. RING AND COVERS IN STREET SHALL BE 400LBS. MIN. WT. ALL OTHERS MAY BE 300LBS
3. MANHOLE COVER AND FRAME SHALL BE SELECTED FROM APPROVED MATERIAL LIST



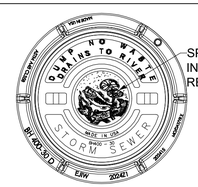
SECTION OF MANHOLE COVER
NOT TO SCALE



FRAME
NOT TO SCALE

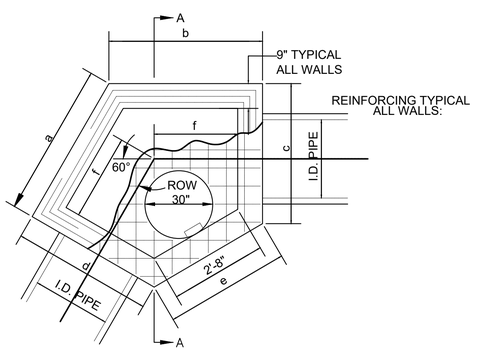


TRAFFIC RATED MANHOLE RING & COVER DETAIL

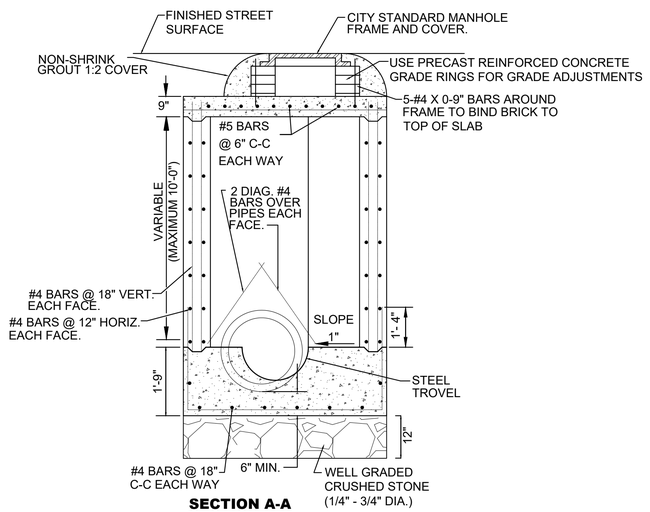


SPECIAL LOGO INSERT PER CITY REQUIREMENT

INLET LID DETAIL



PLAN



SECTION A-A

TYPE "A" MANHOLE

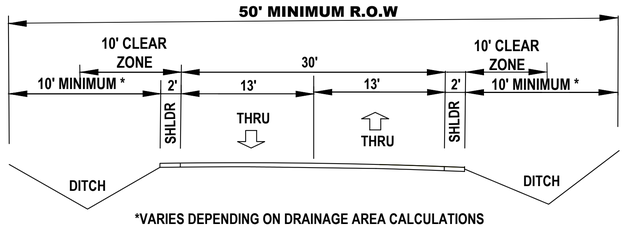
NOT TO SCALE

CITY OF CELINA
STORM DRAIN DETAIL 2
STANDARD DETAILS

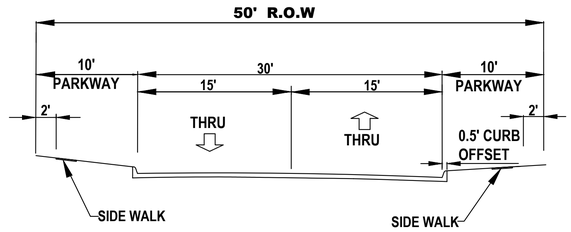
CELINA TEXAS est. 1876

DESIGNED BY: G.F	REV.	BY	DATE	SYMBOL	DATE: JANUARY 2016
DRAWN BY: J.P					JOB NO.:
CHECKED BY: G.F					SHEET NO.: SD- 2

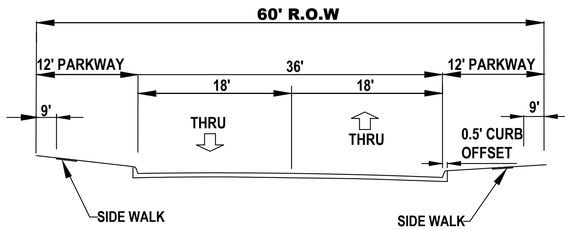
P-201511-02



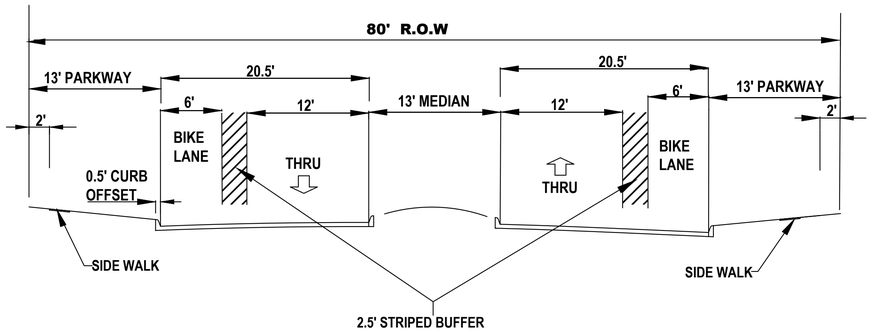
RURAL NEIGHBORHOOD STREET '2LRN'



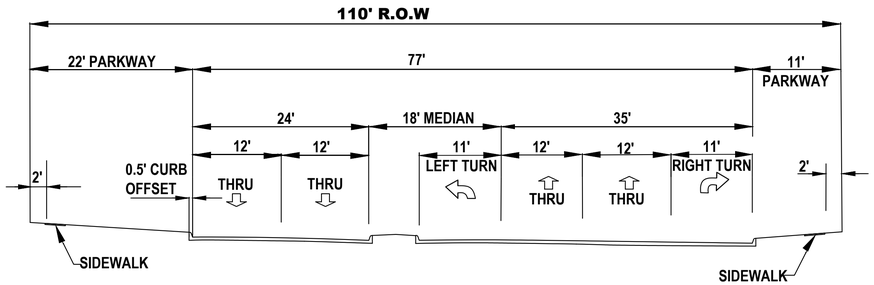
NEIGHBORHOOD STREET '2LN'



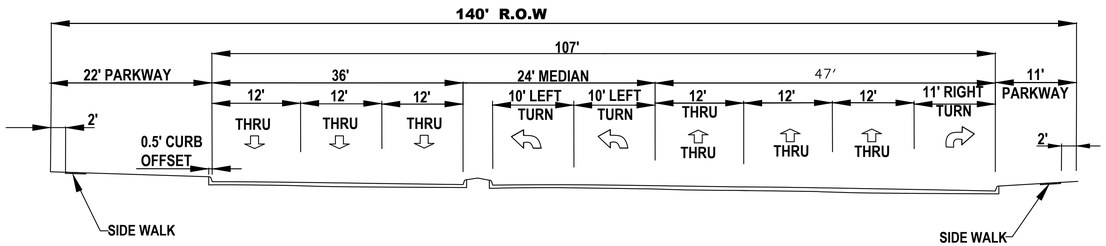
COLLECTOR STREET '2LC' AND RESIDENTIAL '2L'



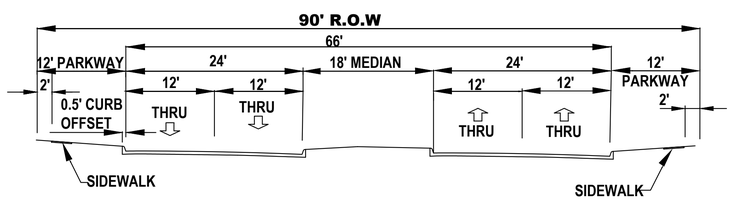
COLLECTOR STREET WITH BIKE LANES (2LCB)



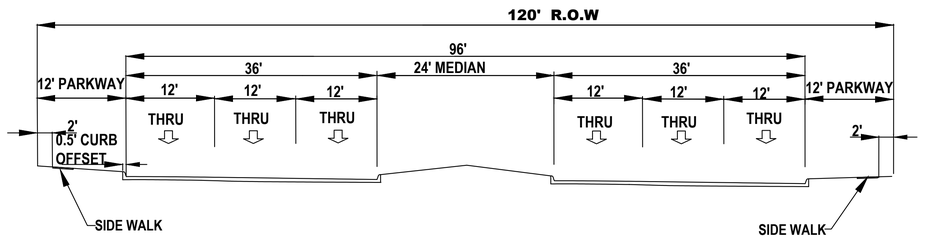
MINOR THOROUGHFARE '4LD' (AT INTERSECTION)



MAJOR THOROUGHFARE '6LD' (AT INTERSECTION)



MINOR THOROUGHFARE '4LD' (AT MID-BLOCK)



MAJOR THOROUGHFARE '6LD' (AT MIDBLOCK)

CITY OF CELINA

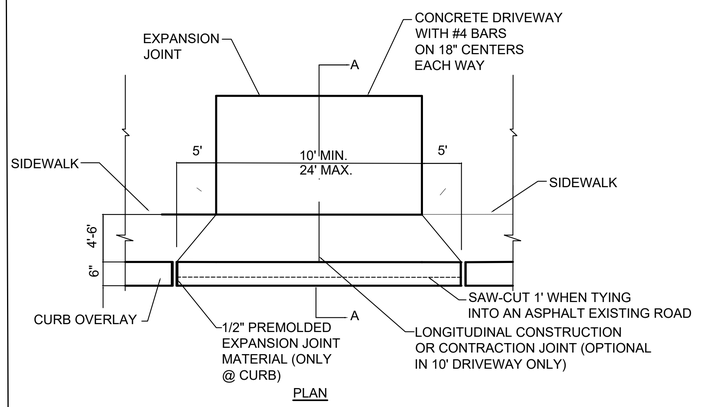
STREET DETAILS 1

STANDARD DETAILS

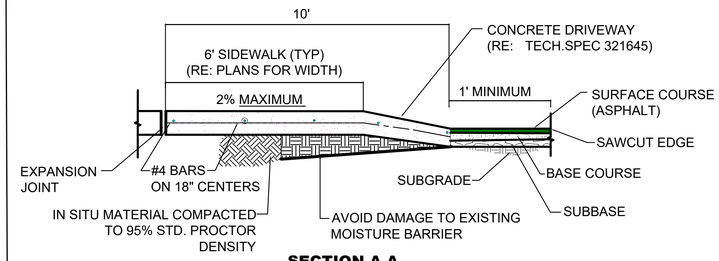
CELINA TEXAS est. 1876

DESIGNED BY: G.F	REV.	BY	DATE	SYMBOL	DATE: JANUARY 2016
DRAWN BY: J.P					JOB NO.:
CHECKED BY: G.F					SHEET NO.: ST- 1

P-201511-02

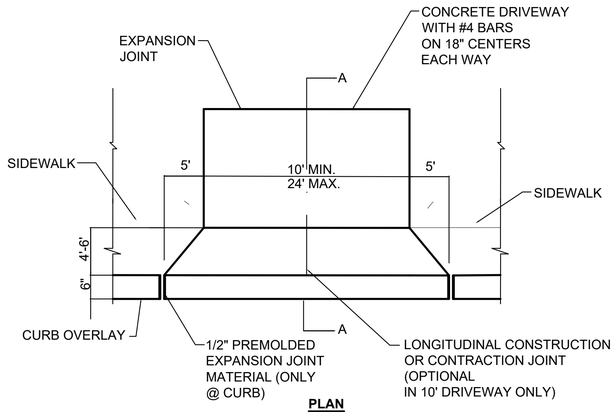


PLAN

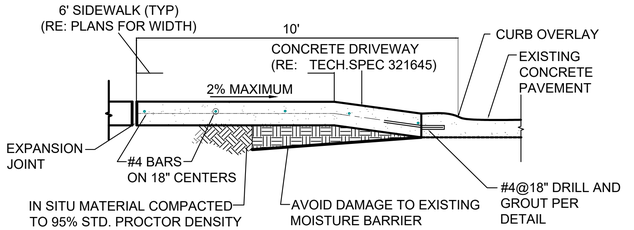


SECTION A-A

RESIDENTIAL DRIVEWAY APPROACH JOINING EXISTING ASPHALT PAVEMENT



PLAN

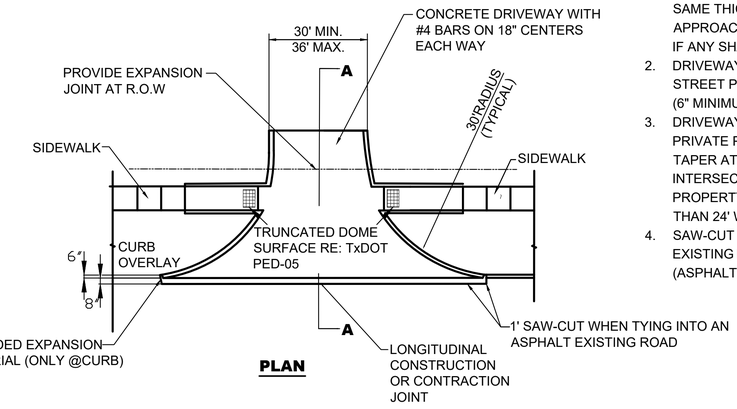


SECTION A-A

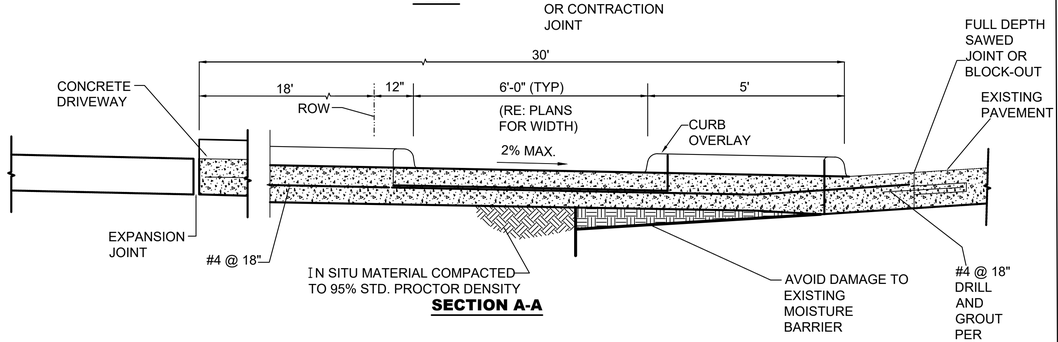
RESIDENTIAL DRIVEWAY APPROACH JOINING EXISTING CONCRETE PAVEMENT

NOTES FOR DRIVEWAY APPROACH:

1. SIDEWALK SECTION THROUGH DRIVEWAY SHALL BE POURED SAME THICKNESS AS DRIVEWAY APPROACH (EXISTING SIDEWALK, IF ANY SHALL BE REMOVED)
2. DRIVEWAY THICKNESS TO MATCH STREET PAVEMENT THICKNESS (6" MINIMUM)
3. DRIVEWAYS CONSTRUCTED ON PRIVATE PROPERTY SHALL TAPER AT 1:1 RATIO TO INTERSECT APPROACH AT PROPERTY LINE NO GREATER THAN 24' WIDTH
4. SAW-CUT 1' WHEN TYING INTO AN EXISTING FLEXIBLE PAVEMENT (ASPHALT)

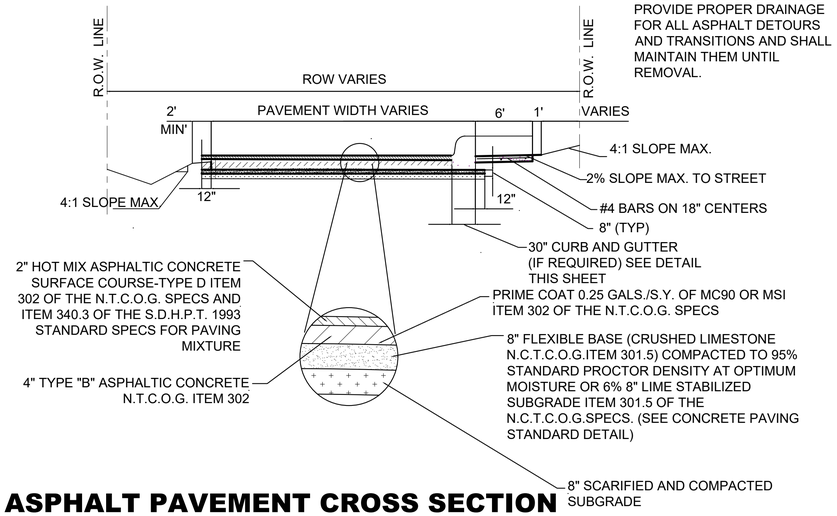


PLAN



SECTION A-A

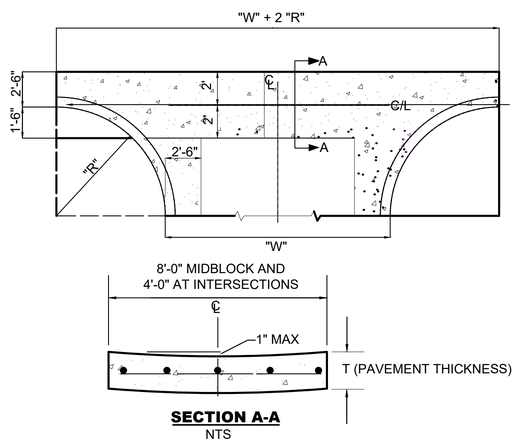
COMMERCIAL DRIVEWAY APPROACH (RADIUS RETURN TYPE)



ASPHALT PAVEMENT CROSS SECTION

(FOR EXISTING ASPHALT ROADWAY EXTENSION TEMPORARY DETOURS AND TRANSITIONS)
NOT TO SCALE

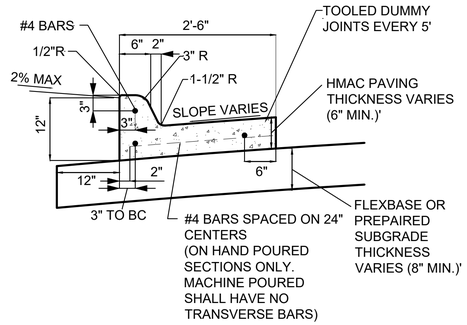
NOTE:
ALL CONCRETE FOR VALLEY GUTTER SHALL BE CLASS "A". REINFORCING STEEL SHALL BE # 4 BARS ON 18" CENTERS BOTH WAYS.



SECTION A-A
NTS

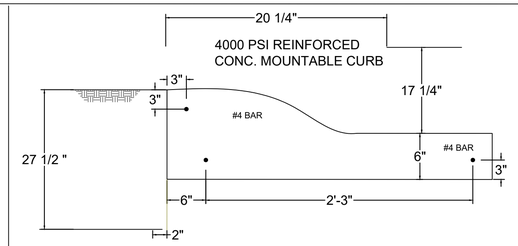
VALLEY GUTTER PLAN

NOT TO SCALE



6" MONOLITHIC CONCRETE CURB & GUTTER

NOT TO SCALE



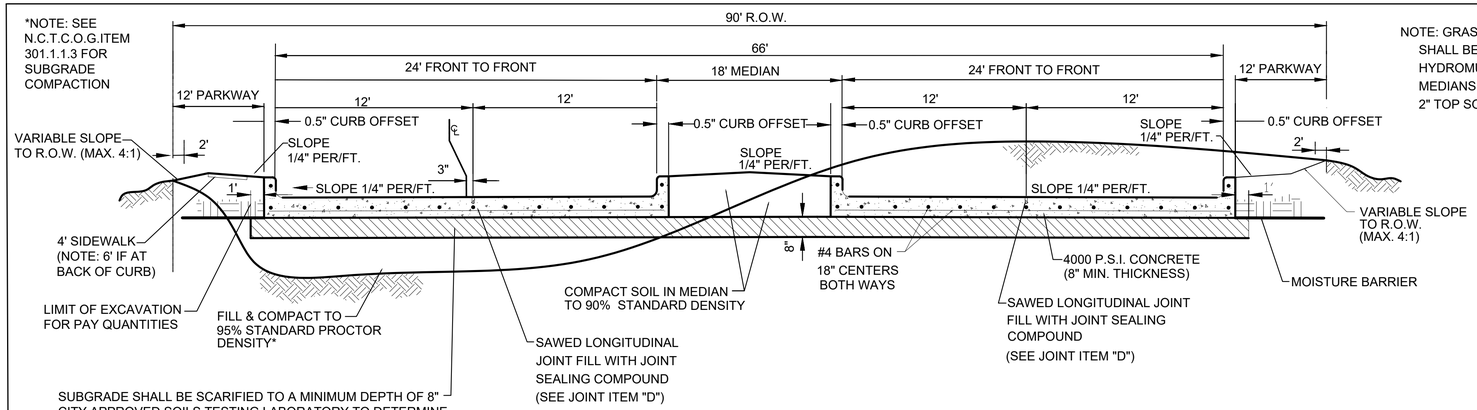
MOUNTABLE CONCRETE CURB

CITY OF CELINA
STREET DETAILS 2
STANDARD DETAILS

CELINA TEXAS est.1870

DESIGNED BY: G.F	REV.	BY	DATE	SYMBOL	DATE: JANUARY 2016
DRAWN BY: J.P					JOB NO.:
CHECKED BY: G.F					SHEET NO.: ST- 2

P-201511-02



TYPICAL SECTION DIVIDED THOROUGHFARE

NOT TO SCALE

NOTE: GRASS IN MEDIANS AND PARKWAYS SHALL BE FURNISHED WITH SOD. HYDROMULCH SEEDING OF GRASSY MEDIANS IS NOT PERMISSIBLE. USE MIN. 2" TOP SOIL PRIOR TO PLACING SOD.

TYPICAL PAVING THICKNESS STANDARDS:

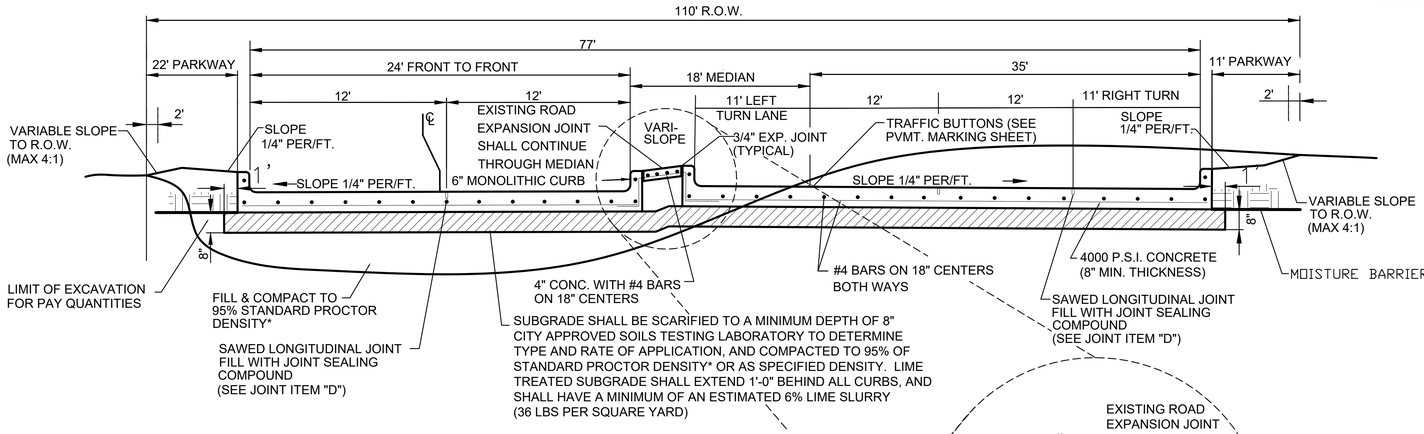
PRINCIPAL ARTERIALS (6LD AND 4LD)
USE 8" REINFORCED CONCRETE PAVEMENT OVER 8" STABILIZED SUBGRADE
COLLECTORS, LOCALS AND RURAL (2LC, 2LCB, 2L, 2LN AND 2LRN)
USE 6" REINFORCED CONCRETE PAVEMENT OVER 8" STABILIZED SUBGRADE.
USE 8" REINFORCED CONCRETE PAVEMENT ON STREETS LEADING INTO INDUSTRIAL DISTRICTS AND ON DESIGNATED TRUCK ROUTES.

CONTRACTOR

MONTH/YEAR

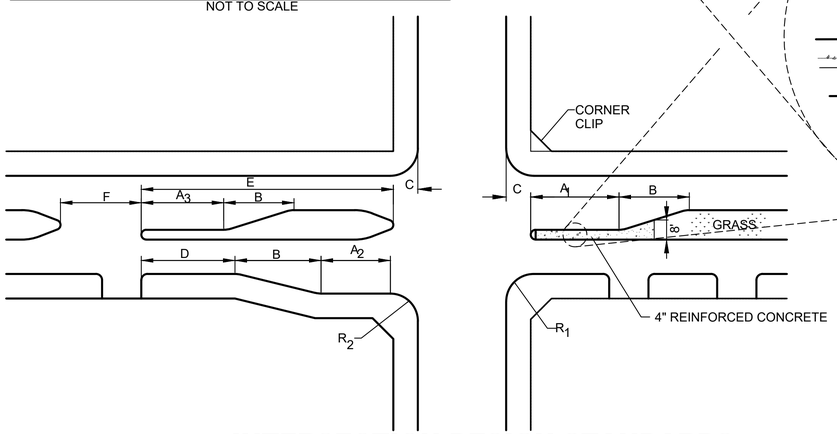
NOTE: TEXT SHALL BE MIN. 1 1/2" HIGH.

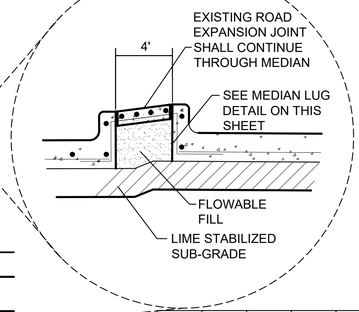
STAMP



TYPICAL SECTION THRU LEFT TURN LANE DIVIDED THOROUGHFARE

NOT TO SCALE

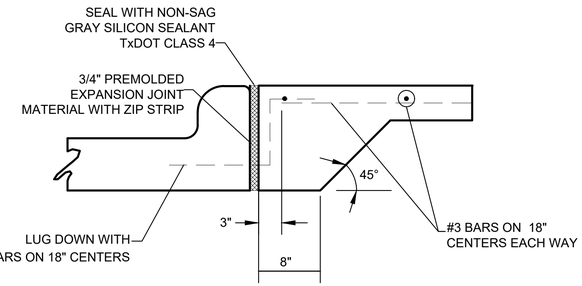




	A1*	A1+	A1#	A2*	A3	B	C	D	E	F	R1	R2	CORNER CLIP
6LD	275'	150'	100'	150'	150'	150'	20'	330'	600'	60'	50'	50'	25' X 25'
4LD	200'	150'	100'	150'	150'	150'	20'	330'	600'	60'	50'	50'	25' X 25'
2LC OR 2L	100'	150'	100'	100'	150'	150'	N/A	270'	N/A	N/A	40'	40'	15' X 15'
2LCB	100'	150'	100'	100'	150'	150'	N/A	270'	N/A	N/A	40'	40'	15' X 15'
2LN	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	25'	25'	10' X 10'
2LRN	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	25'	25'	10' X 10'

INTERSECTION DESIGN STANDARDS

NOT TO SCALE



MEDIAN LUG DETAIL

NOT TO SCALE

CITY OF CELINA

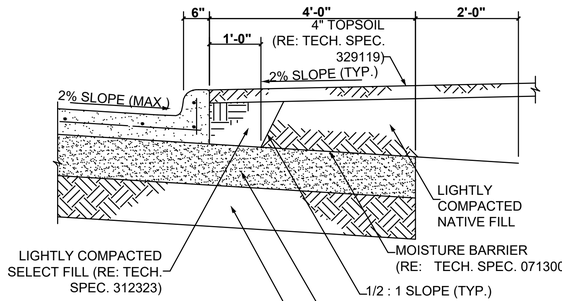
STREET DETAILS 3

STANDARD DETAILS

CELINA TEXAS est.1070

DESIGNED BY: G.F	REV.	BY DATE SYMBOL	DATE: JANUARY 2016
DRAWN BY: J.P			JOB NO.:
CHECKED BY: G.F			SHEET NO.: ST- 3

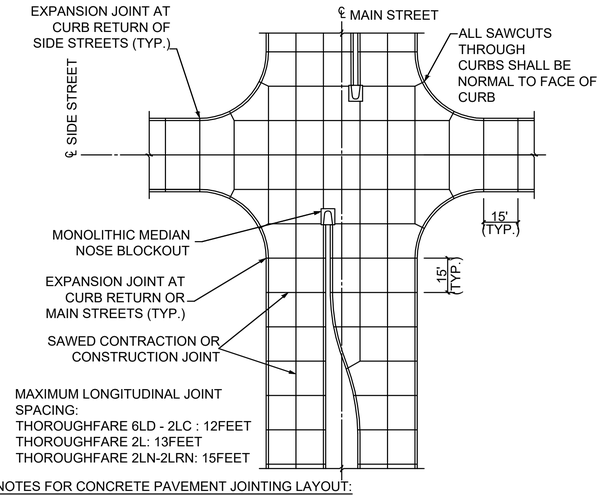
P-201511-02



	ROW WIDTH	PAVEMENT WIDTH FACE TO FACE
TYPE 6LD	120'	DIVIDED-36' EACH WAY
TYPE 4LD	90'	DIVIDED-24' EACH WAY
TYPE 2LCB	60'	41'
TYPE 2LC	60'	36'
TYPE 2L	60'	36'
TYPE 2LN	50'	30'
TYPE 2LRN	50'	26'

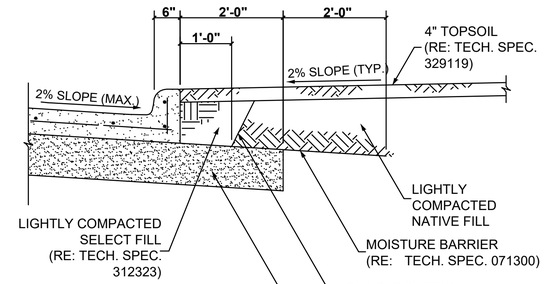
NOTES :
1. REFER TO TECHNICAL SPECIFICATION 321313 FOR CONCRETE PAVEMENT
2. REFER TO DETAIL FOR CONCRETE PAVEMENT REINFORCEMENT
3. CARE SHALL BE TAKEN NOT TO RIP OR TEAR THE MOISTURE BARRIER DURING PLACEMENT OF THE COVER FILL.

THOROUGHFARE CLASSES "6LD" THROUGH "2LRN" TYPICAL SECTION (WITH MOISTURE CONDITIONING)



NOTES FOR CONCRETE PAVEMENT JOINTING LAYOUT:
1. REFER TO TECH. SPEC. 321313 FOR CONCRETE PAVEMENT.
2. ALL PAVEMENT JOINTS ARE EITHER SAWED CONTRACTION OR CONSTRUCTION JOINTS UNLESS NOTED OTHERWISE
3. MAXIMUM TRANSVERSE JOINT SPACING IS 15 FEET
4. LONGITUDINAL JOINT SPACING SHALL MATCH LANE LINES UNLESS NOTED OTHERWISE
5. ALL SAW-CUTS SHALL BE 1/8" TO 3/16" WIDE AND ONE-FOURTH THE DEPTH OF THE ACTUAL SLAB THICKNESS.
6. ALL PAVEMENT JOINTS SHALL BE SEALED. JOINT SEALANT SHALL BE PROVIDED IN ACCORDANCE TO TECH. SPEC. 321373.

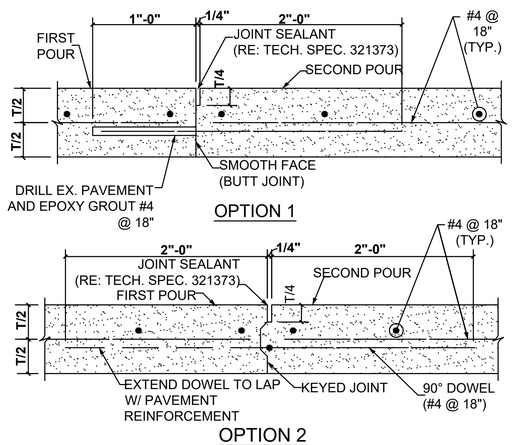
CONCRETE PAVEMENT JOINTING LAYOUT



	ROW WIDTH	PAVEMENT WIDTH FACE TO FACE
TYPE 6LD	120'	DIVIDED-36' EACH WAY
TYPE 4LD	90'	DIVIDED-24' EACH WAY
TYPE 2LCB	60'	41'
TYPE 2LC	60'	36'
TYPE 2L	60'	36'
TYPE 2LN	50'	30'
TYPE 2LRN	50'	26'

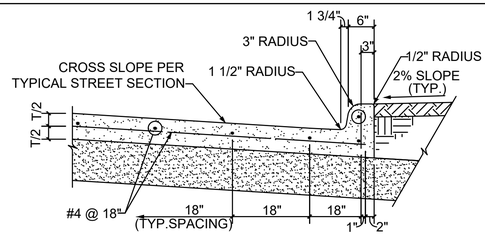
NOTES:
1. REFER TO TECHNICAL SPECIFICATION 321313 FOR CONCRETE PAVEMENT
2. REFER TO DETAIL FOR CONCRETE PAVEMENT REINFORCEMENT
3. CARE SHALL BE TAKEN NOT TO RIP OR TEAR THE MOISTURE BARRIER DURING PLACEMENT OF THE COVER FILL.

THOROUGHFARE CLASSES "2LCB" THROUGH "2LRN" TYPICAL SECTION (WITHOUT MOISTURE CONDITIONING)



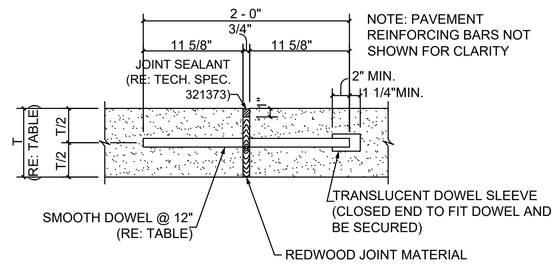
NOTES FOR CONCRETE PAVEMENT CONSTRUCTION JOINTS:
1. REFER TO TECH. SPEC. 321313 FOR CONCRETE PAVEMENT
2. DOWELS MUST BE INSTALLED IN THE PAVEMENT PARALLEL TO THE PAVEMENT SURFACE.
3. DOWELS IN TRANSVERSE JOINTS MUST BE INSTALLED IN THE PAVEMENT PARALLEL TO THE PAVEMENT CENTERLINE.
4. DOWELS IN LONGITUDINAL JOINTS MUST BE INSTALLED IN THE PAVEMENT NORMAL TO THE PAVEMENT CENTERLINE.
5. BACKER ROD MATERIAL MAY BE USED IN CONJUNCTION WITH SEALANT IF THE JOINT SEALANT RESERVOIR MAINTAINS AT LEAST 1:1 WIDTH / DEPTH RATIO, BUT IN NO CASE SHALL THE RATIO BE GREATER THAN 1:15. THE BACKER ROD DIAMETER SHALL BE 1/8" GREATER THAN THE JOINT WIDTH

CONCRETE PAVEMENT CONSTRUCTION JOINTS



NOTES:
1. REFER TO TECH. SPEC. 321313 FOR CONCRETE PAVEMENT
2. ALL REINFORCING STEEL SHALL BE #4 DEFORMED STEEL BARS CONFORMING TO ASTM A615 (GRADE 60) IN ACCORDANCE WITH TECH. SPEC. 032100.
3. INITIAL TRANSVERSE REINFORCING STEEL SPACING SHALL BE 12".
4. INITIAL LONGITUDINAL REINFORCING STEEL SPACING SHALL BE 12" AS SHOWN ABOVE

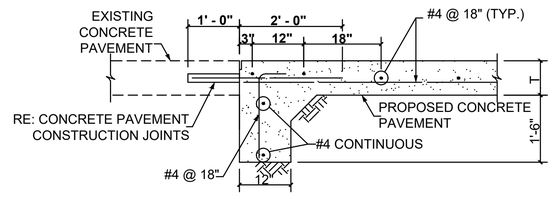
TYPICAL PAVEMENT REINFORCEMENT AND CONCRETE CURB



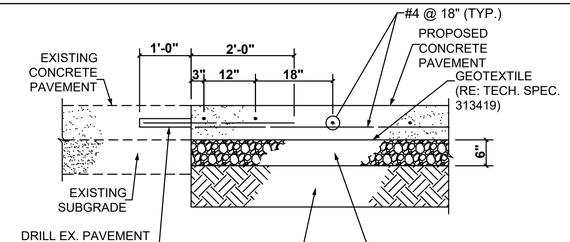
STREET CLASS	T(IN)	DOWEL SIZE (IN)	DOWEL LENGTH (L) (IN)
TYPE 6LD	9	1.0	24
TYPE 4LD	8	1.0	24
TYPE 2LCB	7	0.75	24
TYPE 2LC	6	0.75	24
TYPE 2L	6	0.75	24
TYPE 2LN	6	0.75	24
TYPE 2LRN	6	0.75	24

NOTES FOR CONCRETE PAVEMENT EXPANSION JOINT:
1. REFER TO TECH. SPEC. 321313 FOR CONCRETE PAVEMENT
2. CAPPED AND UNCAPPED ENDS SHALL ALTERNATE
3. DOWEL SUPPORT MATERIALS AND LAYOUT SHALL BE SUBMITTED TO THE CITY FOR REVIEW AND APPROVAL PRIOR TO ORDERING MATERIALS FOR CONSTRUCTION.
4. ENTIRE LENGTH OF DOWEL SHALL BE LUBRICATED
5. DOWELS MUST BE INSTALLED IN THE PAVEMENT PARALLEL TO THE PAVEMENT SURFACE AND TO THE CENTERLINE

CONCRETE PAVEMENT EXPANSION JOINT

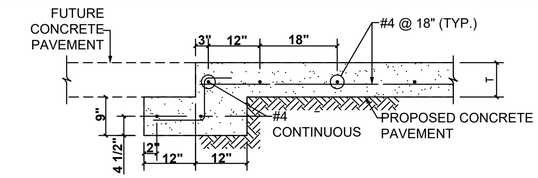


STREET HEADER AT EXISTING PAVEMENT

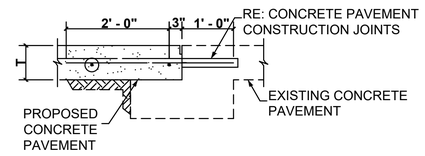


NOTES:
1. REFER TO TECH. SPEC. 321313 FOR CONCRETE PAVEMENT

EXISTING CONCRETE PAVEMENT WIDENING



STREET HEADER FOR FUTURE CONCRETE PAVEMENT



CONCRETE PAVEMENT AT STREET HEADER

NOTES FOR STREET HEADERS:
1. REFER TO TECH. SPEC. 321313 FOR CONCRETE PAVEMENT
2. REFERENCE TYPICAL SECTIONS FOR PROPOSED CONCRETE PAVEMENT THICKNESS AND SUBGRADE TREATMENT

CONCRETE STREET HEADERS

CITY OF CELINA

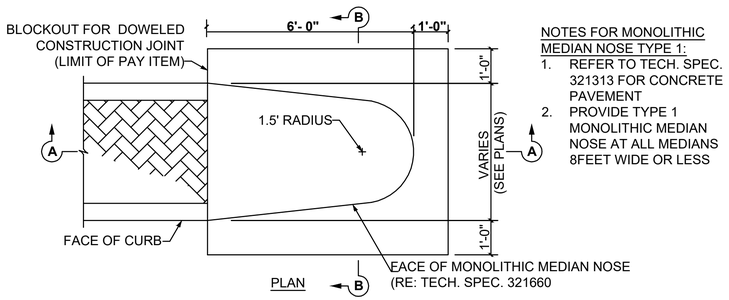
STREET DETAILS 4

STANDARD DETAILS

CELINA TEXAS est.1876

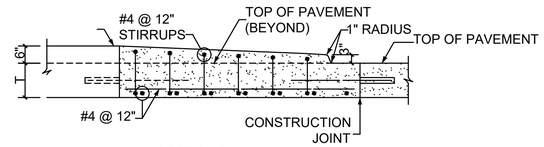
DESIGNED BY: G.F	REV. BY	DATE	SYMBOL	DATE: JANUARY 2016
DRAWN BY: J.P				JOB NO.:
CHECKED BY: G.F				SHEET NO.: ST- 4

P-201511-02

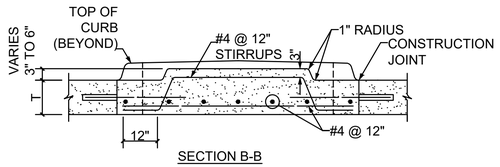


NOTES FOR MONOLITHIC MEDIAN NOSE TYPE 1:

1. REFER TO TECH. SPEC. 321313 FOR CONCRETE PAVEMENT
2. PROVIDE TYPE 1 MONOLITHIC MEDIAN NOSE AT ALL MEDIANS 8FEET WIDE OR LESS

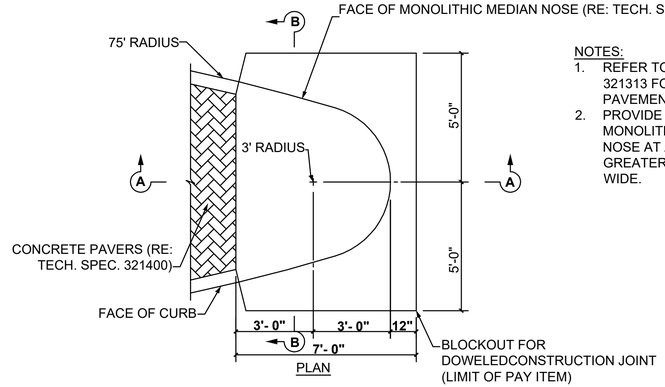


SECTION A-A



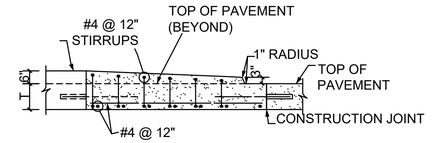
SECTION B-B

MONOLITHIC MEDIAN NOSE (TYPE 1)

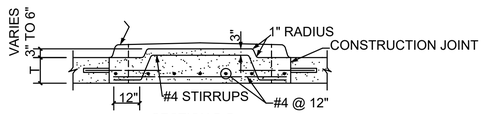


NOTES:

1. REFER TO TECH. SPEC. 321313 FOR CONCRETE PAVEMENT.
2. PROVIDE TYPE 2 MONOLITHIC MEDIAN NOSE AT ALL MEDIANS GREATER THAN 8 FEET WIDE.

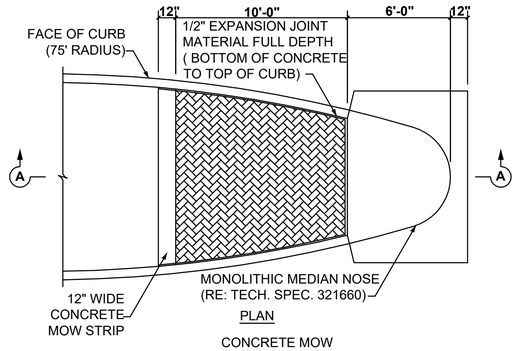


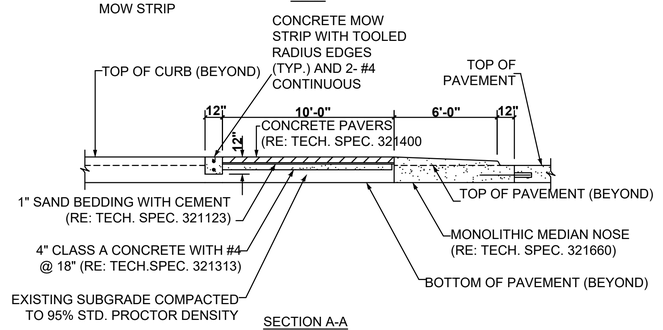
SECTION A-A



SECTION B-B

MONOLITHIC MEDIAN NOSE (TYPE 2)



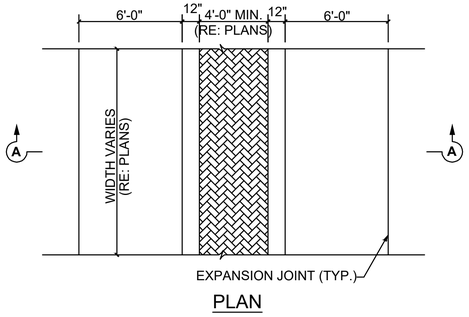


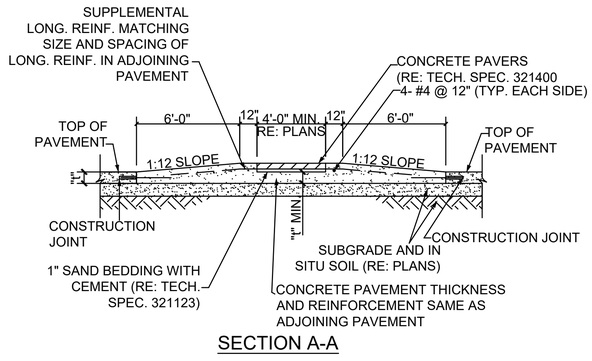
SECTION A-A

NOTE:

1. REFER TO TECH. SPEC. 321313 FOR CONCRETE PAVEMENT.

MEDIAN NOSE WITH PAVERS



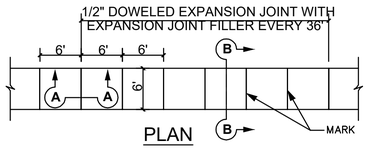


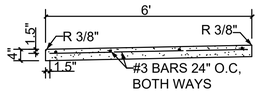
SECTION A-A

NOTES FOR SPEED TABLE:

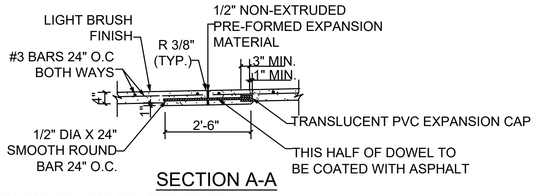
1. REFER TO TECH. SPEC. 321313 FOR CONCRETE PAVEMENT
2. WIDTH OF PAVERS SHALL AT A MINIMUM MATCH THE WIDTH OF THE CONNECTING SIDEWALK

SPEED TABLE





SECTION B-B

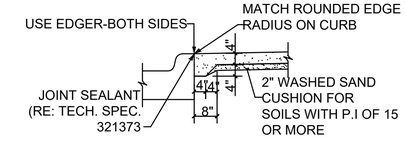


SECTION A-A

NOTES FOR REINFORCED SIDE WALK:

1. MAXIMUM GRADE OF THE SIDEWALK SHALL BE FIVE PERCENT (5%) OR THE GRADE OF THE ADJACENT STREET
2. CROSS SLOPE OF SIDEWALK SHALL BE TWO PERCENT (2%) MAX. PER A.D.A
3. 6 FEET SIDEWALK WIDTH FOR TYPE 6LD AND 4LD THOROUGHFARES
4. SIDEWALK SHALL BE CLASS A CONCRETE UNLESS OTHERWISE SPECIFIED BY OWNER.
5. ALL HONEYCOMB IN BACK OF CURB TO BE TROWEL-PLASTERED BEFORE POURING SIDEWALK.
6. LUG MAY BE FORMED BY SHAPING SUBGRADE TO APPROXIMATE DIMENSIONS SHOWN.

REINFORCED CONCRETE SIDEWALK



JOINT LUG DETAIL FOR SIDEWALK ADJACENT TO CURB

CITY OF CELINA

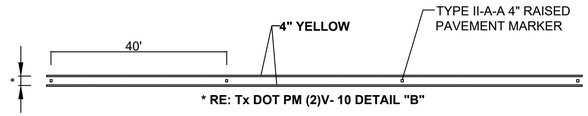
STREET DETAILS 5

STANDARD DETAILS

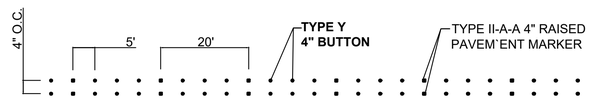
CELINA TEXAS est.1879

DESIGNED BY: G.F	REV.	BY	DATE	SYMBOL	DATE: JANUARY 2016
DRAWN BY: J.P					JOB NO.:
CHECKED BY: G.F					SHEET NO.: ST- 5

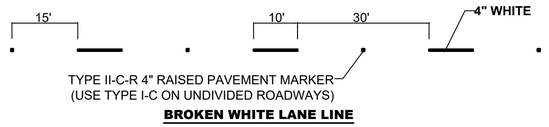
P-201511-02



DOUBLE YELLOW LINE (PAVEMENT MARKINGS)

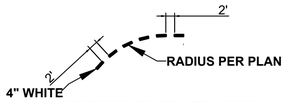


DOUBLE YELLOW LINE (BUTTONS, RAISED PAVEMENT MARKERS)

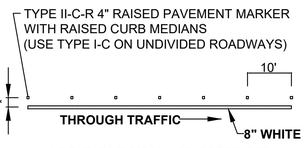


BROKEN WHITE LANE LINE

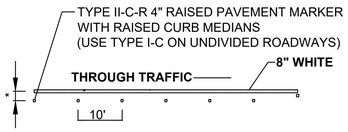
WHITE OR YELLOW EDGE LINE



LEFT TURN "PUPPY TRACKS"



LEFT TURN BAY LINE

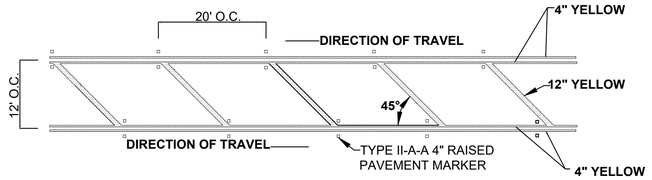


RIGHT TURN BAY LINE

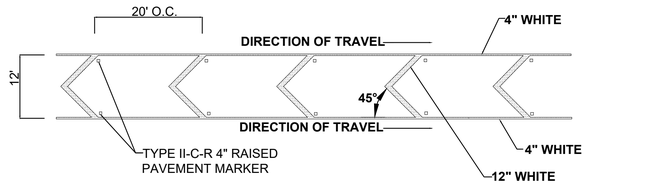
NOTES FOR PAVEMENT MARKINGS AND MARKERS

1. ALL STRIPING, ARROWS AND WORDS ON PAVEMENT SHALL BE THERMOPLASTIC UNLESS OTHERWISE NOTED IN PLANS.
2. REFER TO TECHNICAL SPECIFICATION 321723.
3. REFER TO TxDOT PM (4) - 03 DETAIL "A" FOR DIMENSION BETWEEN PAVEMENT MARKINGS AND MARKERS.

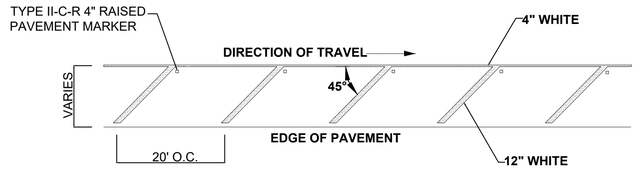
PAVEMENT MARKINGS AND MARKERS



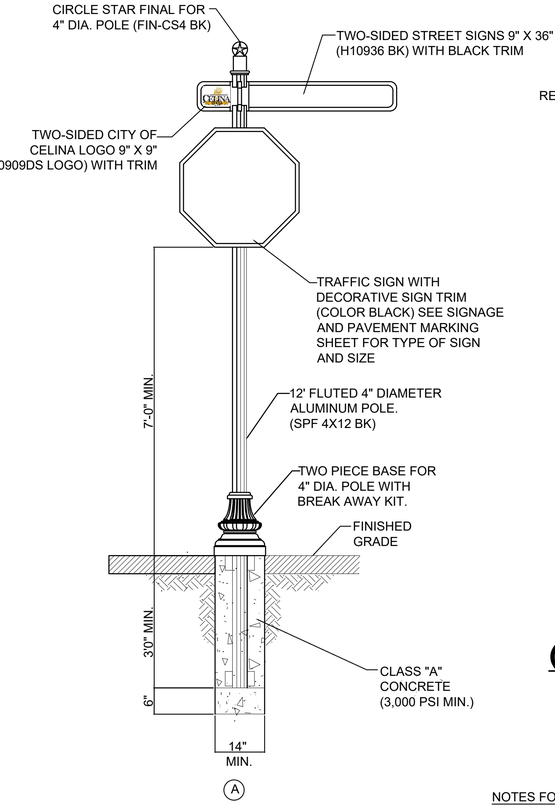
OPPOSING TRAFFIC GORE DETAIL



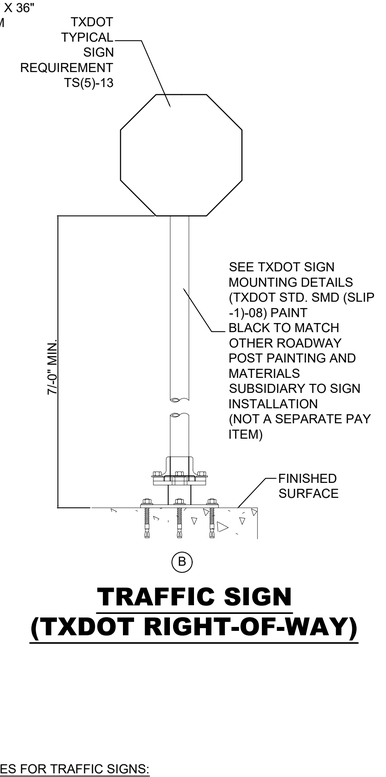
NEUTRAL AREA CHANNELIZATION



LANE DROP



CLAMP-ON TRAFFIC SIGN AND ROADWAY POST WITH BASE



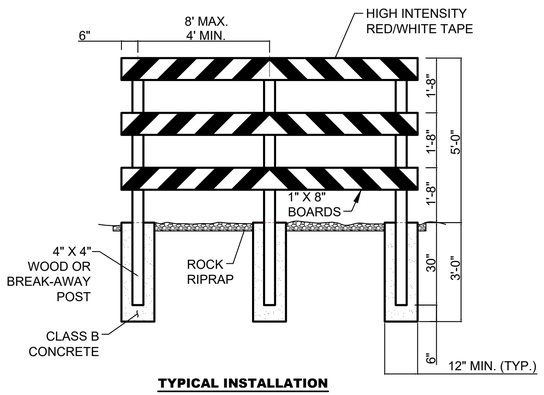
TRAFFIC SIGN (TXDOT RIGHT-OF-WAY)

NOTES FOR TRAFFIC SIGNS:

1. SIGNAGE SHALL CONFORM TO THE "TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES."
2. STREET SIGNS LOCATED IN CITY RIGHT-OF-WAY SHALL CONFORM TO THE DETAILS SHOWN ON THE SHEET.
3. STREET SIGNS LOCATED IN TXDOT RIGHT-OF-WAY SHALL CONFORM TO THE TXDOT STANDARD DETAILS SHOWN.
4. BOTTOM OF SIGN SHALL BE A MINIMUM OF 7'-0" ABOVE FINISHED GRADE.
5. FOR SIGN ASSEMBLY TYPE 'A':

a. USE A FOUNDATION A MINIMUM 3'-0" BELOW FINISHED SURFACE AND ANCHORED WITH CONCRETE AS SHOWN.

b. REFER TO THE MANUFACTURE'S INSTALLATION PROCEDURE FOR MATERIAL AND INSTALLATION.

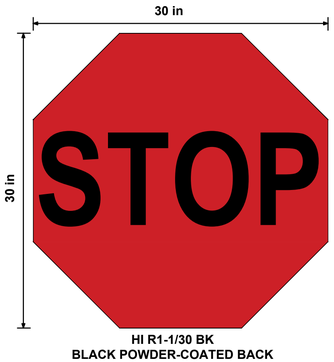


TYPICAL INSTALLATION

ROAD CLOSED BARRICADE

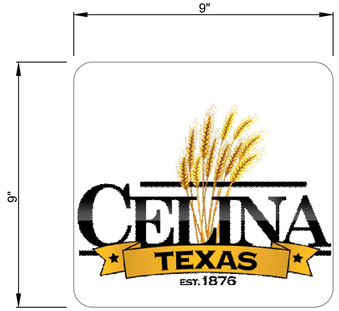
NOTES FOR ROAD CLOSED BARRICADE:

1. ALL BARRICADES SHALL BE IN ACCORDANCE WITH THE LATEST REVISION OF THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (TMUTCD) AND THE STANDARD HIGHWAY SIGN DESIGNS FOR TEXAS (SHSD).
2. BARRICADE MUST COVER ENTIRE WIDTH OF PAVED ROADWAY OR FIRE-LANE SURFACE.
3. ALL 1" X 8" AND 4" X 4" WOOD POSTS MUST BE PAINTED WHITE.
4. BARRICADES SHALL BE DESIGNED AND CONSTRUCTED TO THE STANDARDS OF THE COMPLIANT WORK ZONE TRAFFIC CONTROL DEVICE LIST.
5. BARRICADE STRIPING MATERIAL SHALL BE RED AND WHITE HIGH INTENSITY REFLECTIVE SHEETING.
6. DIAGONAL STRIPING SHALL BE PLACED IN A MANNER THAT DIRECTS TRAFFIC IN THE APPROPRIATE DIRECTION OF TRAVEL.
7. PROPOSED BARRICADE STRIPING SHALL BE APPROVED BY THE CITY PRIOR TO PLACEMENT OF BARRICADE.



HI R1-1/30 BK
BLACK POWDER-COATED BACK

STOP SIGNS AND STOP BARS



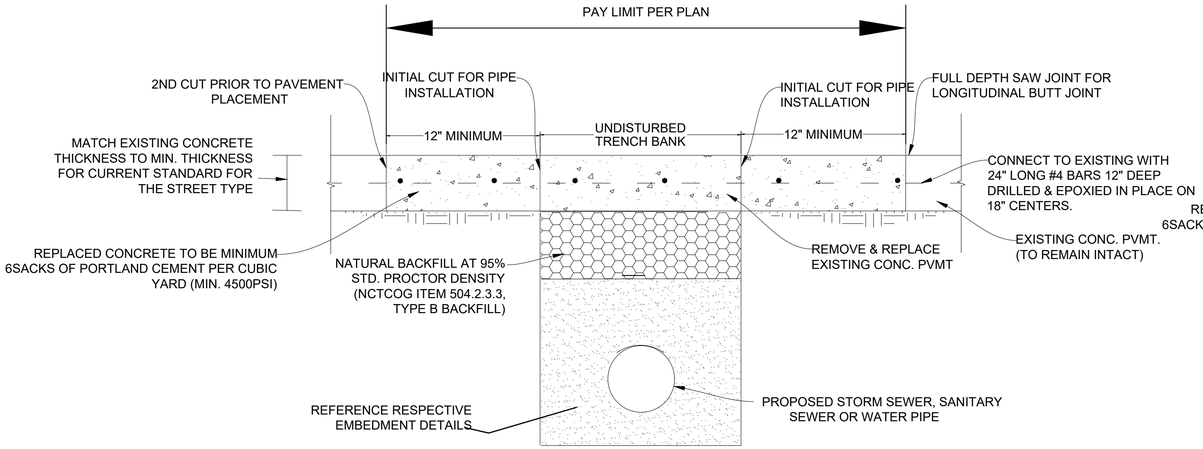
CURRENT CITY LOGO

CITY OF CELINA
STREET DETAILS 6
STANDARD DETAILS

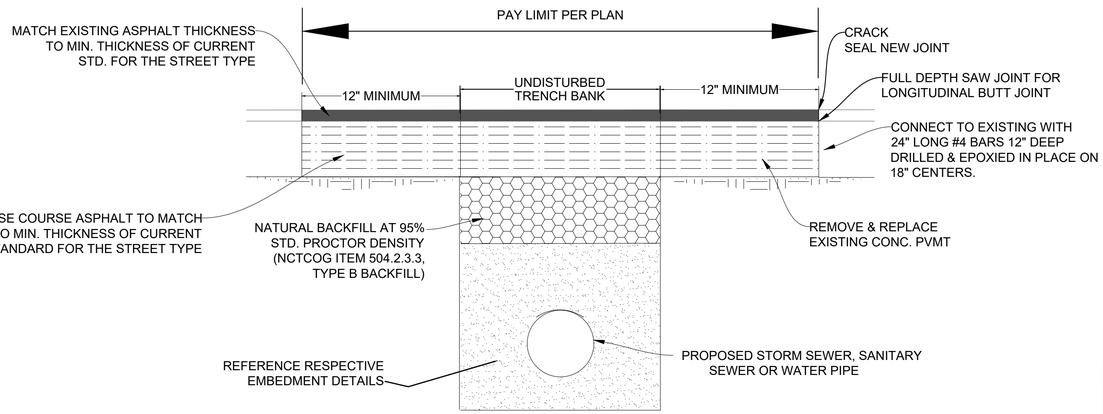
CELINA TEXAS est. 1876

DESIGNED BY: G.F	REV.	BY	DATE	SYMBOL
DRAWN BY: J.P				
CHECKED BY: G.F				

DATE: JANUARY 2016
JOB NO.:
SHEET NO.: ST- 6

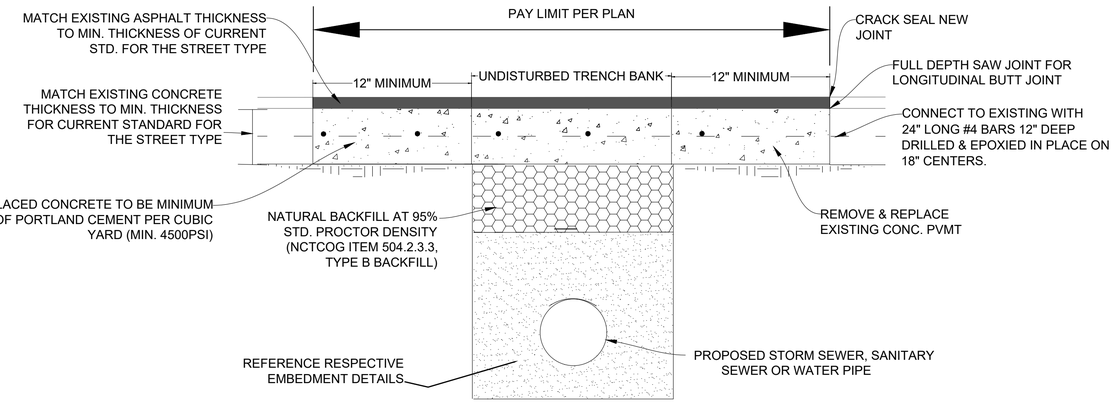


CONCRETE PAVEMENT



FULL DEPTH ASPHALT PAVEMENT

PAVEMENT CUT AND REPAIR



CONCRETE PAVEMENT WITH ASPHALT OVERLAY

GENERAL NOTES FOR STREET:
ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS OF THE CITY OF CELINA WHICH HAS ALSO ADOPTED THE LATEST EDITION OF THE "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION - NORTH CENTRAL TEXAS" HEREIN REFERRED TO AS "N.C.T.C.O.G." SPECIFICATIONS. COPIES MAY BE OBTAINED FROM THE NORTH CENTRAL TEXAS COUNCIL OF GOVERNMENTS, 616 SIX FLAGS DRIVE, SUITE 200, ARLINGTON, TEXAS 76005-5888 (817) 640-3300. ALSO REFER TO N.C.T.C.O.G. ITEM 303 SPECIFICATIONS THERE SHALL BE NO LEAVE OUTS FOR UTILITY ADJUSTMENTS; ALL MANHOLE, VALVE SETS ETC. SHALL BE CONSTRUCTED TO FINAL GRADE PRIOR TO PAVING.MEDIANS AND PARKWAYS SHALL BE SODDED (NO SEEDING). CONTRACTOR SHALL CONTACT PUBLIC WORKS DEPARTMENT FOR THE REMOVAL OF CITY SIGNS IN RIGHT-OF-WAY.

SUBGRADE PREPARATION:
PLEASE REFER TO ITEM 301 OF THE N.C.T.C.O.G. SPECIFICATIONS.

LIME STABILIZED SUBGRADE:
A. LIME - THE LIME SHALL MEET THE REQUIREMENTS OF ASTM C977 / AASHTO M 216; CONTAIN AT LEAST 92 PERCENT CALCIUM AND MAGNESIUM OXIDE, AND THE RATE OF SLAKING TEST FOR MODERATE REACTIVITY PER ASTM C110 / AASHTO T 232. ALL LIME SHALL COME FROM A SINGLE SOURCE, SHALL BE THE SAME SOURCE AS USED IN THE DESIGN, AND SHALL BE SUBJECT TO PERIODIC TESTING TO CONFIRM PROPERTIES. EACH SHIPMENT OF LIME SHALL BE ACCOMPANIED BY A CERTIFICATE OF COMPLIANCE STATING THE CONFORMANCE OF THE PRODUCT TO THESE SPECIFICATIONS. CERTIFICATES SHALL BE PROVIDED TO THE CITY. IN THE EVENT THE CONTRACTOR CHANGES LIME SOURCES, NO WORK SHALL BE DONE UNTIL THE CITY ACCEPTS, IN WRITING, A NEW LIME-SOIL MIX DESIGN USING THE NEW LIME SOURCE.
B. WATER - ALL WATER SHALL MEET THE MATERIAL REQUIREMENTS AASHTO T 26. KNOWN POTABLE WATER MAY BE USED WITHOUT TESTING.
C. SOIL - SUBGRADE SOILS USED IN THE STABILIZATION SHALL BE OF THE SAME AASHTO OR ASTM CLASSIFICATION AND PLASTICITY INDEX RANGE AS USED IN THE APPROVED MIX DESIGN. ALL ORGANICS, ROOTS AND DELETERIOUS MATERIALS SHALL BE REMOVED FROM THE AREA TO BE STABILIZED AND SHALL BE WASTED.
D. ASPHALT - ASPHALT USED TO SEAL THE SURFACE OF THE LIME STABILIZED SUBGRADE SHALL BE CSS1H OR OTHER APPROVED ASPHALT AS APPROVED BY THE CITY AND SHALL CONFORM TO THE REQUIREMENTS OF TxDOT ITEM 300, "ASPHALTS, OILS AND EMULSIONS". EACH SHIPMENT SHALL BE ACCOMPANIED BY A CERTIFICATE OF COMPLIANCE STATING THE CONFORMANCE OF THE PRODUCT TO THESE SPECIFICATIONS WHICH SHALL BE PROVIDED TO THE CITY.
E. UNLESS OTHERWISE APPROVED BY THE CITY, THE LIME OPERATION SHALL NOT BE STARTED WHEN THE AIR TEMPERATURE IS BELOW 40° F AND FALLING, BUT MAY BE STARTED WHEN THE AIR TEMPERATURE IS ABOVE 35° F AND RISING. THE TEMPERATURE WILL BE TAKEN IN THE SHADE AND AWAY FROM ARTIFICIAL HEAT. LIME SHALL NOT BE PLACED DURING PERIODS OF RAIN OR WHEN WEATHER CONDITIONS IN THE OPINION OF THE CITY ARE NOT SUITABLE.
F. DRY QUICK LIME SHALL BE SPREAD ONLY ON THAT AREA WHERE THE MIXING OPERATIONS CAN BE COMPLETED DURING THE SAME WORKING DAY AND SHALL NOT BE APPLIED WHEN WIND CONDITIONS, IN THE OPINION OF THE CITY, ARE SUCH THAT BLOWING LIME BECOMES OBJECTIONABLE TO ADJACENT PROPERTY OWNERS OR DANGEROUS TO TRAFFIC. SLURRIED QUICK LIME SHALL BE SPREAD AND MIXED WITHIN 1 HOUR. SLURRY EXPOSED TO THE AIR FOR OVER 1 HOUR SHALL NOT BE ACCEPTED.

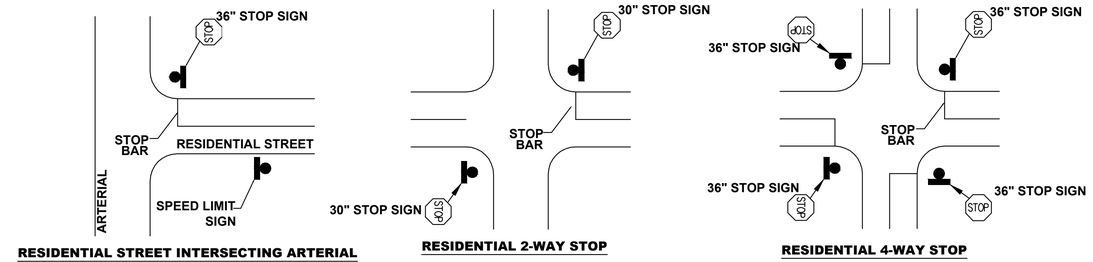
TESTING:
A. THE CITY WILL PROVIDE BACKFILL, DENSITY AND CONCRETE TESTING FOR ALL PROJECTS UNLESS SPECIFIED OTHERWISE. ALL REPORTS SHALL BE TURNED INTO THE INSPECTOR WITHIN FIVE (5) WORKING DAYS.

PRIVATE DEVELOPMENT PROJECTS:
THE DEVELOPER/OWNER SHALL PROVIDE ESCROW FUNDS FOR GEOTECHNICAL AND MATERIAL TESTING FOR BACKFILL, DENSITY AND CONCRETE TESTING PRIOR TO BEGINNING ANY CONSTRUCTION.

MATERIAL:
A. ALL MATERIAL INCORPORATED IN THE CONSTRUCTION SHALL BE NEW.
B. HOT-MIX ASPHALT CONCRETE PAVEMENT:
1. SPECIFICATION SHALL FOLLOW SECTION 302.9 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION N.C.T.C.O.G. AND CONFORM TO THE TXDOT STANDARD FOR HOT-MIX ASPHALTIC CONCRETE.
C PRIME COAT WILL FOLLOW N.C.T.C.O.G. SPECIFICATIONS 302.7 AND 302.9.6.1.
2. TACK COAT WILL FOLLOW N.C.T.C.O.G. SPECIFICATION 302.9.6.2.
3. HMAC MIX DESIGNS SHALL FOLLOW N.C.T.C.O.G. SPECIFICATION 302.9.3 AND THE GRADING TABLES INCLUDED IN THIS SECTION. THESE MIXTURES WILL BE IN ACCORDANCE WITH TXDOT TEST METHOD TEX-204-F, DESIGN OF BITUMINOUS MIXTURES.
C. CONCRETE CURB AND GUTTER: MOUNTABLE CURB
1. ALL CONCRETE FOR CURB AND GUTTER MOUNTABLE CURB\K SHALL BE 4000 PSI, 5% AIR (±1.5%)
2. EXPANSION JOINTS SHALL BE PLACED AT ALL INTERSECTION CR.S, PT.S, DRIVEWAYS, INLETS, AND OTHER CURB OR EVERY 200 LF.
3. ALL EXPANSION JOINTS SHALL NOT BE LESS THAN 1/2" IN THICKNESS WITH REDWOOD BOARDS. ALL LOOSE MATERIAL BETWEEN THE FORM WILL BE REMOVED AND THE GRADE WETTED PRIOR TO THE PLACEMENT OF CONCRETE.
4. AN APPROVED CURING COMPOUND SHALL BE APPLIED TO THE SURFACE.

TESTING:
A. PLEASE REFER TO THE STANDARD GENERAL TESTING REQUIREMENTS FOR WATER, WASTEWATER, STORM DRAIN AND PAVEMENT CONSTRUCTION DETAIL SHEET.
B. THE CITY WILL PROVIDE BACKFILL, DENSITY AND CONCRETE TESTING FOR ALL PROJECTS UNLESS SPECIFIED OTHERWISE. ALL REPORTS SHALL BE TURNED INTO THE INSPECTOR WITHIN FIVE (5) WORKING DAYS.

PRIVATE DEVELOPMENT PROJECTS:
THE DEVELOPER/OWNER SHALL PROVIDE ESCROW FUNDS FOR GEOTECHNICAL AND MATERIAL TESTING AS PER CITY ORDINANCE #7951 FOR BACKFILL, DENSITY AND CONCRETE TESTING PRIOR TO BEGINNING ANY CONSTRUCTION.



STOP SIGNS AND STOP BARS

LOCATION:
- 9" EXTRUDED BLADE SHALL BE USED AT ALL INTERSECTIONS

BLADE REQUIREMENTS:
- 9" EXTRUDED BLADE SHALL BE ALUMINUM
- MAX BLADE LENGTH SHALL BE 72INCHES

LETTERING ALIGNMENT:
- STREET NAME SHALL BE LEFT JUSTIFIED
- BLOCK NUMBERS SHALL BE LOCATED IN LOWER RIGHT HAND CORNER
- ABBREVIATED STREET DESIGNATIONS SHALL BE LOCATED IN THE UPPER RIGHT HAND CORNER AND RIGHT JUSTIFIED.

LETTERING FOR 9" EXTRUDED BLADES:
- FONT SHALL BE CLEAR VIEW 2W
- LETTERS AND NUMBERS IN STREET NAME SHALL BE 6" TALL AND UPPER/LOWER CASE
- LETTERS IN ABBREVIATED STREET DESIGNATION SHALL BE 3" TALL AND UPPER/LOWER CASE (IE Ln, Pkwy, Dr, Ct ETC)
- BLOCK NUMBERS SHALL BE 3" TALL

SIGN SHEETING AND COLOR:
- SHEETING SHALL BE DIAMOND GRADE INTENSITY
- BACKGROUND COLOR SHALL BE GREEN
- LEGEND SHALL BE WHITE

NO OUTLETS STREETS:
- FOR A STREET WITH ONLY ONE CUL-DE-SAC END (TYPICAL) A STANDARD W 14-2a SHALL BE MOUNTED OVER THE STREET NAME BLADE.
- IN THE CASE OF A STREET WITH TWO CUL-DE-SAC ENDS, TWO STANDARD W 14-2a SIGNS SHALL BE MOUNTED OVER THE STREET NAME BLADE PLACED IN THE APPROPRIATE DIRECTIONS.

BLOCK NUMBER:
DEVELOPERS/CONTRACTORS ORDERING SIGNS SHOULD CONTACT DEVELOPMENT SERVICES AT 972-382-2682, BLOCK NUMBERS ARE REQUIRED ON ALL STREET NAME BLADES, EVEN IF NO HOUSE/BUILDINGS FRONT ONTO THE STREET.

STREET NAME SIGN

CITY OF CELINA

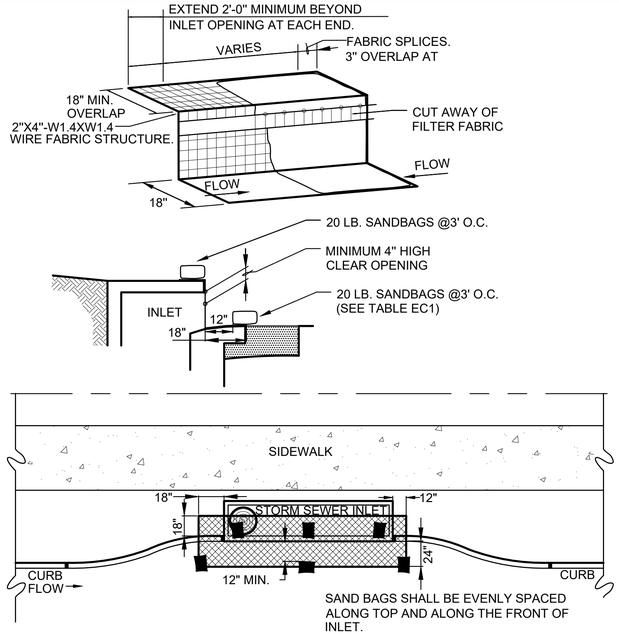
STREET DETAILS 7

STANDARD DETAILS

CELINA TEXAS est.1876

DESIGNED BY: G.F	REV.	BY	DATE	SYMBOL
DRAWN BY: J.P				JOB NO.:
CHECKED BY: G.F				SHEET NO.: ST- 7

DATE: JANUARY 2016



CURB INLET ON GRADE PROTECTION DETAIL

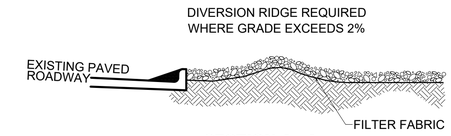
N.T.S.

GENERAL NOTES: INLET PROTECTION

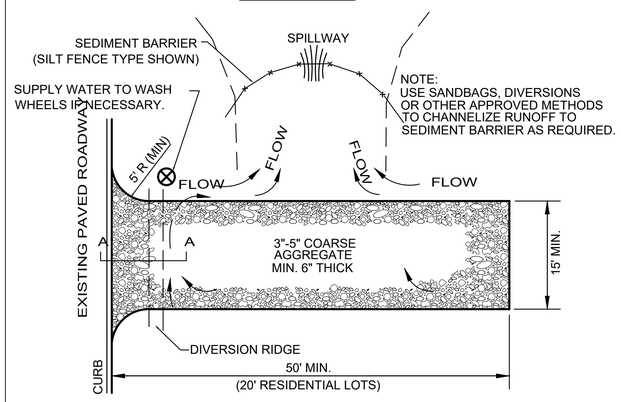
1. A SECTION OF FILTER FABRIC SHALL BE REMOVED AS SHOWN ON THIS DETAIL TO PROVIDE A 4" MINIMUM CLEAR OPENING. FABRIC MUST BE SECURED TO WIRE BACKING WITH CLIPS OR HOG RINGS AT THIS LOCATION.
2. INSPECTION SHALL BE MADE BY THE CONTRACTOR AND SILT ACCUMULATION MUST BE REMOVED WHEN DEPTH REACHES 2".
3. CONTRACTOR SHALL MONITOR THE PERFORMANCE OF INLET PROTECTION DURING EACH RAINFALL EVENT AND IMMEDIATELY REMOVE THE INLET PROTECTIONS IF THE STORM-WATER BEGINS TO OVERTOP THE CURB.
4. INLET PROTECTIONS SHALL BE REMOVED AS SOON AS THE SOURCE OF SEDIMENT IS STABILIZED.

TABLE EC1

INLET OPENING	MINIMUM NUMBER OF SAND BAGS	
	TOP	FRONT
5'	2	3
10'	3	3
15'	3	4
20'	4	4

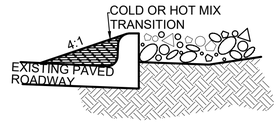


SECTION A - A



PLAN

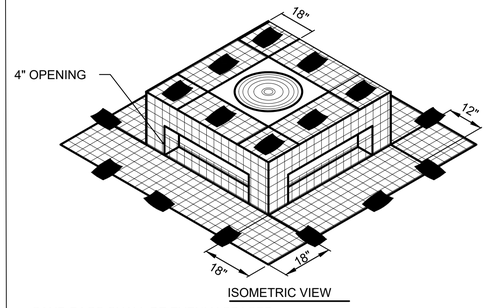
WHEN SEDIMENT HAS SUBSTANTIALLY CLOGGED THE VOID AREA BETWEEN THE ROCKS, THE AGGREGATE MAT MUST BE WASHED DOWN OR REPLACED. PERIODIC RE-GRADING AND TOP DRESSING WITH ADDITIONAL STONE MUST BE DONE TO KEEP THE EFFICIENCY OF THE ENTRANCE FROM DIMINISHING.



TRANSITION

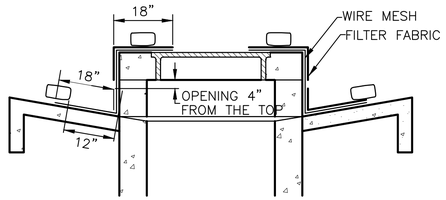
TEMPORARY STONE CONSTRUCTION ENTRANCE/EXIST

N.T.S.



ISOMETRIC VIEW

SAND BAGS SHALL BE EVENLY SPACED ALONG TOP AND ALONG THE FRONT OF INLET.



SECTION

FILTER FABRIC WYE INLET PROTECTION

N.T.S.

ESTABLISHMENT OF GROUND COVER

1. EIGHTY PERCENT (80%) EVENLY DISTRIBUTED GROUND COVER, WITHOUT LARGE BARE AREAS, SHALL BE ESTABLISHED AFTER THE DESIGNATED AREAS HAVE BEEN COMPLETED TO THE LINES, GRADES AND CROSS SECTIONS SHOWN ON THE PLANS AND PRIOR TO FINAL ACCEPTANCE BY THE CITY ENGINEER.
2. GROUND COVER SHALL BE ESTABLISHED AS PER NORTH CENTRAL TEXAS COUNCIL OF GOVERNMENTS (N.C.T.C.O.G.) "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION" 202.6 SEEDING TURFGRASS. COPIES MAY BE OBTAINED FROM THE "NORTH CENTRAL COUNCIL OF GOVERNMENTS", PO DRAWER 5888, ARLINGTON, TEXAS, 76005-5888, PHONE (817) 640-3300, ALSO AVAILABLE AT WWW.PUBLICWORKS.DFWINFO.COM. A COPY OF THE CONTRACT DOCUMENTS, PLANS AND SPECIFICATIONS SHALL BE AVAILABLE ON-SITE AT ALL TIMES BY THE CONTRACTOR.
3. PRIOR TO PLANTING, CONTRACTOR SHALL PROVIDE THE CITY ENGINEER, OR HIS DESIGNEE, WITH THE STATE OF TEXAS CERTIFICATE STATING ANALYSIS OF PURITY AND GERMINATION OF SEED.
4. PLANTING SEASON AND APPLICATION RATES. ALL PLANTING SHALL BE DONE BETWEEN THE DATES SPECIFIED IN TABLE 1, FOR EACH GRASS TYPE EXCEPT WHEN SPECIFICALLY AUTHORIZED IN WRITING. THE SEEDS PLANTED PER ACRE SHALL BE OF A TYPE SPECIFIED WITH THE MIXTURE, RATE AND PLANTING DATES AS SHOWN IN THE TABLE 1, OR AS SPECIFIED BY THE ENGINEER.

Table 1. Seeding Turfgrass

TYPE	PLANTING SEASON	SEED AND RATE
TYPE I	MARCH THROUGH SEPTEMBER	BERMUDA GRASS, HULLED 50-LB (22.7-KG[1]) PLS PER ACRE
TYPE II	OCTOBER THROUGH FEBRUARY	RYE GRASS, 100-LB (45.4-KG) PLS PER ACRE COMBINED WITH BERMUDA GRASS, HULLED 20-LB (9.1-KG[1]) PLS PER ACRE.
OTHER	AS SPECIFIED ON PLANS	AS SPECIFIED ON PLANS

[1]PLS - Pure Live Seed is determined by multiplying the gross weight times purity times the germination [For example, a 100-lb bag with 85% purity and 80% germination. (PLS=pounds in bag x Purity x germination) 100 x 0.85 x 0.8 = 60.8 -lbs of pure live seed.)

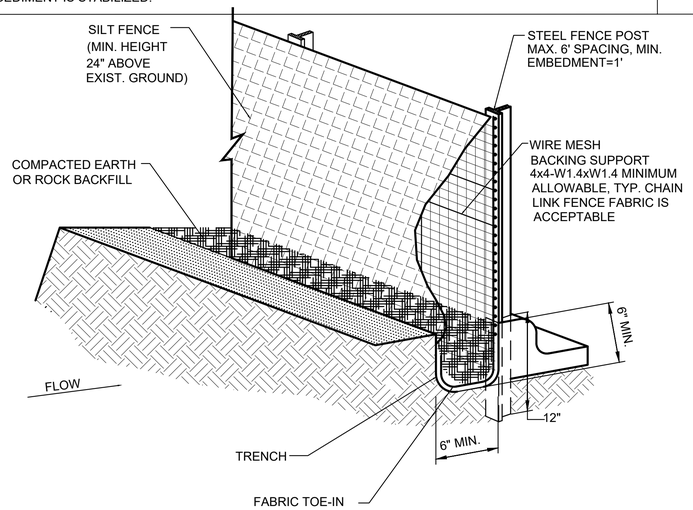
5. SEEDED AREAS SHALL BE MAINTAINED, INCLUDING WATERING AND MOWING, AT SUCH TIME AND IN A MANNER AND QUALITY TO ESTABLISH A MINIMUM 80% EVENLY DISTRIBUTED GROUND COVER, WITHOUT LARGE BARE AREAS, UNTIL COMPLETION AND FINAL ACCEPTANCE OF THE PROJECT BY THE CITY ENGINEER.
6. IN LIEU OF SILT FENCES, THE CONTRACTOR MAY USE TEMPORARY EROSION CONTROL MATTING AND/OR MULCHING PERIMETER GUARD TO STABILIZE DISTURBED SOIL AREA. EROSION CONTROL MATTING AND MULCHING SHALL BE INSTALLED IN COMPLIANCE WITH N.C.T.C.O.G. STANDARD SPECIFICATIONS 201.16 AND 201.17. PROPRIETARY PRODUCTS SHALL BE INSTALLED PER MANUFACTURERS RECOMMENDATIONS. EROSION CONTROL MATS USED AGAINST PAVED AREAS SHALL HAVE A WIDTH OF NO LESS THAN 10 FEET. NO HAY PRODUCTS SHALL BE USED.
7. ALL MATERIAL INCORPORATED IN THE CONSTRUCTION SHALL BE NEW.

GENERAL NOTES: EROSION CONTROL

1. INSPECTIONS SHALL BE PERFORMED EVERY 7 DAYS AND ANY REPAIR OR MAINTENANCE ON EROSION CONTROLS AND BEST MANAGEMENT PRACTICES WILL BE MADE PROMPTLY AS NEEDED.
2. NO EXCAVATION OR CURB CUT-BACKS WILL BE ALLOWED WITHIN 18 INCHES OF THE STREET OR CURB WITHOUT APPROVAL FROM THE CITY ENGINEER.
3. STREETS WILL BE KEPT FREE FROM MUD OR EARTH MATERIALS DURING THE CONSTRUCTION.
4. USE OF ALTERNATE EROSION CONTROL DEVICES MUST BE APPROVED IN ADVANCE BY CITY ENGINEER AND SHOWN CLEARLY ON THE EROSION CONTROL PLANS PRIOR TO ANY EARTH DISTURBING ACTIVITIES.
5. THE REQUIREMENTS OF NCTCOG BEST MANAGEMENT PRACTICES STANDARDS SHALL APPLY TO ALL ALTERNATE EROSION CONTROL DEVICES AS AMENDED BY THE CITY.
6. CONCRETE WASH-OUT SHALL BE MAINTAINED AND SHALL HAVE SIGNAGE AND SHOWN ON EROSION CONTROL DRAWINGS.

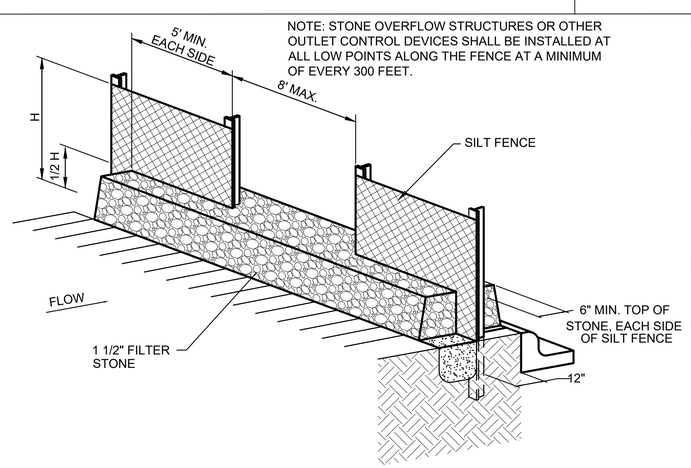
EROSION CONTROL NOTES:

1. EROSION CONTROL MATS SHALL BE IN COMPLIANCE WITH NCTCOG BEST MANAGEMENT PRACTICES. EROSION CONTROL MATS MAY BE USED IN PLACE OF OR IN ADDITION TO SILT FENCE FOR SHEET FLOW FILTERING APPLICATIONS.
2. MATS SHALL BE INSTALLED AND ACHORED SECURELY TO THE GROUND IN COMPLIANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
3. THE WIDTH REQUIREMENTS OF THE EROSION CONTROL MATS SHALL BE COMPARABLE TO THE WIDTH OF THE DISTURBED SURFACE TO BE FILTERED. THE MINIMUM WIDTH SHALL BE 10 FEET FOR SINGLE FAMILY LOTS AND 20FEET FOR COMMERCIAL APPLICATIONS UNLESS OTHERWISE APPROVED BY THE CITY.
4. THE WIDTH OF EROSION CONTROL MATS CAN BE REDUCED WHEN USED IN CONJUNCTION WITH SILT FENCE AND BLOCK SOD VEGETATIVE BUFFER STRIPS. IN NO APPLICATIONS WILL EROSION CONTROL MATS BE LESS THAN 4 FEET WIDE.



SILT FENCE ISOMETRIC PLAN VIEW

N.T.S.



SILT FENCE STONE OVERFLOW STRUCTURE

SILT FENCE GENERAL NOTES:

1. STEEL POSTS WHICH SUPPORT THE SILT FENCE SHALL BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. POST MUST BE EMBEDDED A MINIMUM OF ONE FOOT.
2. THE TOE OF THE SILT FENCE SHALL BE TRENCHED-IN WITH SPADE OR MECHANICAL TRENCHER SO THAT THE DOWN SLOPE FACE OF THE TRENCH IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW. WHERE SILT FENCE CANNOT BE TRENCHED -IN (EG. PAVEMENT OR ROCK SURFACE) WEIGHT FABRIC FLAP WITH ROCK ON UPHILL SIDE TO PREVENT FLOW FROM SEEPING UNDER FENCE.
3. THE TRENCH MUST BE MINIMUM OF 6 INCHES DEEP AND 6INCHES WIDE TO ALLOW FOR THE SILT FENCE FABRIC TO BE LAID IN THE GROUND AND BACKFILLED WITH COMPACTED MATERIAL.
4. SILT FENCE SHOULD BE SECURELY FASTENED TO EACH STEEL SUPPORT POST OR TO WOVEN WIRE WHICH IN TURN IS ATTACHED TO THE STEEL FENCE POST. THERE SHALL BE A 3 FOOT OVERLAP. SECURELY FASTENED WHERE ENDS OF FABRIC MEET.
5. ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF 1 FOOT. THIS SILT SHALL BE DISPOSED OF AT AN APPROVED SITE AND IN SUCH A MANNER AS TO NOT CONTRIBUTE TO ADDITIONAL SILTATION
6. SILT FENCE SHALL BE REMOVED WHEN THE SITE IS COMPLETELY STABILIZED.
7. ROCK FILTER DAMS SHALL BE USED AT CONCENTRATED HIGH FLOW DISCHARGE AREAS IN LIEU OF SILT FENCE.

CITY OF CELINA

EROSION CONTROL DETAILS 1

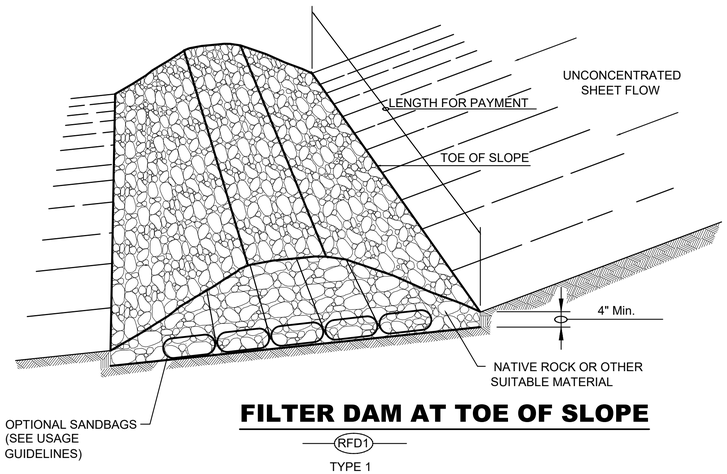
STANDARD DETAILS

CELINA TEXAS est.1876

DESIGNED BY: G.F	REV. BY	DATE	SYMBOL
DRAWN BY: J.P			JOB NO.:
CHECKED BY: G.F			SHEET NO.: EC- 1

DATE: JANUARY 2016

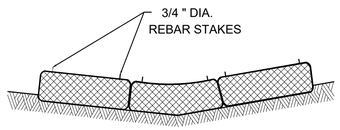
P-201511-02



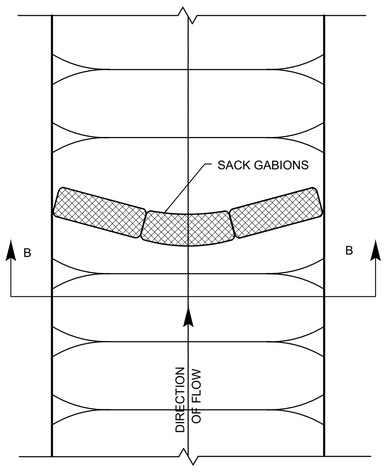
FILTER DAM AT TOE OF SLOPE

RFD1

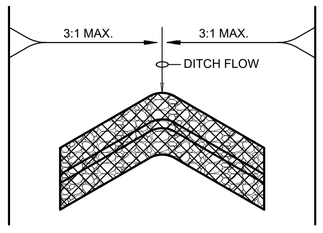
TYPE 1



SECTION B-B

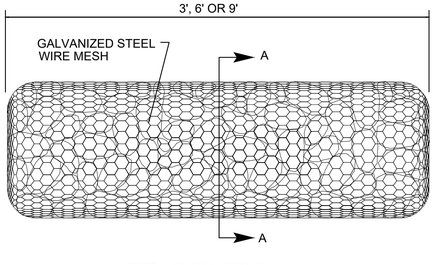


PLAN VIEW



"V" SHAPE

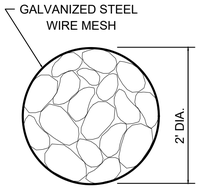
(PLAN VIEW)



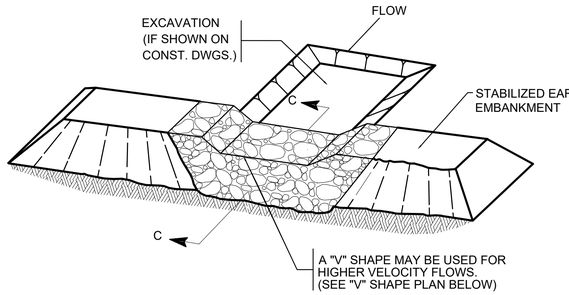
TYPE 4 (SACK GABIONS)

PLANS SHEET LEGEND

TYPE 1 ROCK FILTER DAM	RFD1
TYPE 2 ROCK FILTER DAM	RFD2
TYPE 3 ROCK FILTER DAM	RFD3



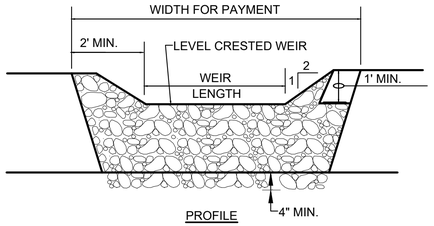
SECTION A-A



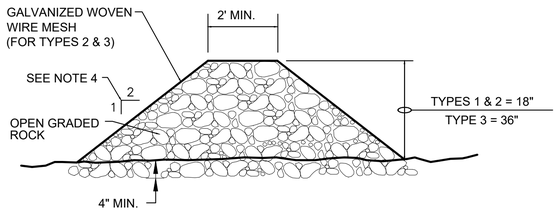
FILTER DAM AT SEDIMENT TRAP

RFD1 OR RFD2

TYPE 1 OR TYPE 2



PROFILE



SECTION C-C

ROCK FILTER DAM USAGE GUIDELINES

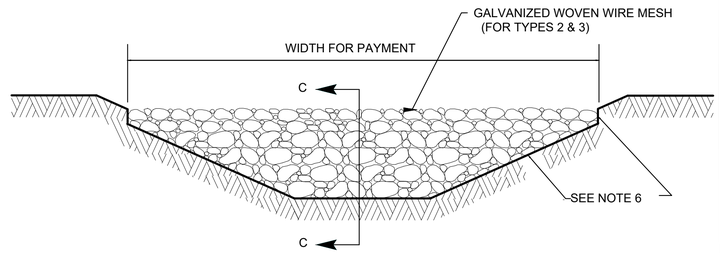
ROCK FILTER DAMS SHOULD BE CONSTRUCTED DOWNSTREAM FROM DISTURBED AREAS TO INTERCEPT SEDIMENT FROM OVERLAND RUNOFF AND/OR CONCENTRATED FLOW. THE DAMS SHOULD BE SIZED TO FILTER A MAXIMUM FLOW THROUGH RATE OF 60 GPM/FT OF CROSS SECTIONAL AREA. A 2 YEAR STORM FREQUENCY MAY BE USED TO CALCULATE THE FLOW RATE.

TYPE 1 (18" HIGH WITH NO WIRE MESH): TYPE 1 MAY BE USED AT THE TOE OF SLOPES, AROUND INLETS, IN SMALL DITCHES, AND AT DIKE OR SWALE OUTLETS. THIS TYPE OF DAM IS RECOMMENDED TO CONTROL EROSION FROM A DRAINAGE AREA OF 5 ACRES OR LESS. TYPE 1 MAY NOT BE USED IN CONCENTRATED HIGH VELOCITY FLOWS (APPROX. 8 FT/SEC OR MORE) IN WHICH AGGREGATE WASH OUT MAY OCCUR. SANDBAGS MAY BE USED AT THE EMBEDDED FOUNDATION (4" DEEP MIN.) FOR BETTER FILTERING EFFICIENCY OF LOW FLOWS IF CALLED FOR ON THE PLANS OR DIRECTED BY THE ENGINEER.

TYPE 2 (18" HIGH WITH WIRE MESH): TYPE 2 MAY BE USED IN DITCHES AND AT DIKE OR SWALE OUTLETS.

TYPE 3 (36" HIGH WITH WIRE MESH): TYPE 3 MAY BE USED IN STREAM FLOW AND SHOULD BE SECURED TO THE STREAM BED.

TYPE 4 (SACK GABIONS): TYPE 4 MAY BE USED IN DITCHES AND SMALLER CHANNELS TO FORM AN EROSION CONTROL DAM.



FILTER DAM AT CHANNEL SECTIONS

RFD1 OR RFD2 OR RFD3

TYPE 1 OR TYPE 2

GENERAL NOTES: ROCK FILTER DAM

1. IF SHOWN ON THE PLANS OR DIRECTED BY THE ENGINEER, FILTER DAMS SHOULD BE PLACED NEAR THE TOE OF SLOPES WHERE EROSION IS ANTICIPATED, UPSTREAM AND/OR DOWNSTREAM AT DRAINAGE STRUCTURES, AND IN ROADWAY DITCHES AND CHANNELS TO COLLECT SEDIMENT.
2. MATERIALS (AGGREGATE, WIRE MESH, SANDBAGS, ETC.) SHALL BE AS INDICATED BY THE SPECIFICATION FOR "ROCK FILTER DAMS FOR EROSION AND SEDIMENTATION CONTROL".
3. THE ROCK FILTER DAM DIMENSIONS SHALL BE AS INDICATED ON THE SWPPP OR EROSION CONTROL PLANS.
4. STONE SIDE SLOPES SHOULD BE 2:1 OR FLATTER. DAMS WITHIN THE SAFETY ZONE SHALL HAVE SIDE SLOPES OF 6:1 OR FLATTER.
5. MAINTAIN A MINIMUM OF 1' BETWEEN TOP OF ROCK FILTER DAM WEIR AND TOP OF EMBANKMENT FOR FILTER DAMS AT SEDIMENT TRAPS.
6. FILTER DAMS SHOULD BE EMBEDDED A MINIMUM OF 4" INTO EXISTING GROUND.
7. THE SEDIMENT TRAP FOR PONDING OF SEDIMENT LADEN RUNOFF SHALL BE OF THE DIMENSIONS SHOWN ON THE PLANS.
8. ROCK FILTER DAM TYPES 2 & 3 SHALL BE SECURED WITH 20 GAUGE GALVANIZED WOVEN WIRE MESH WITH 1" DIAMETER HEXAGONAL OPENINGS. THE AGGREGATE SHALL BE PLACED ON THE MESH TO THE HEIGHT & SLOPES SPECIFIED. THE MESH SHALL BE FOLDED AT THE UPSTREAM SIDE OVER THE AGGREGATE AND TIGHTLY SECURED TO ITSELF ON THE DOWNSTREAM SIDE USING WIRE TIES OR HOG RINGS. IN STREAM USE THE MESH SHOULD BE SECURED OR STAKED TO THE STREAM BED PRIOR TO AGGREGATE PLACEMENT.
9. SACK GABIONS SHOULD BE STAKED DOWN WITH 3/4" DIA. REBAR STAKES.
10. FLOW OUTLET SHOULD BE ONTO A STABILIZED AREA (VEGETATION, ROCK, ETC.).
11. THE GUIDELINES SHOWN HEREON ARE SUGGESTIONS ONLY AND MAY BE MODIFIED BY THE ENGINEER.
12. ALL MATERIAL INCORPORATED IN THE CONSTRUCTION SHALL BE NEW.
13. MAX TEMPORARY EARTH SLOPE IS 3:1 WITH 4:1 RECOMMENDED IF PRACTICAL

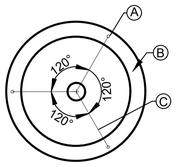
CITY OF CELINA

EROSION CONTROL DETAILS 2

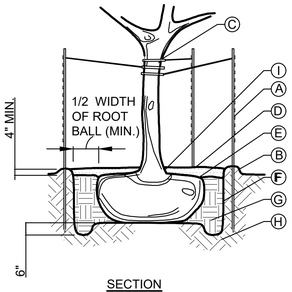
STANDARD DETAILS

CELINA TEXAS est. 1876

DESIGNED BY: G.F	REV.	BY	DATE	SYMBOL	DATE: JANUARY 2016
DRAWN BY: J.P					JOB NO.:
CHECKED BY: G.F					SHEET NO.: EC- 2



PLAN

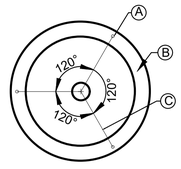


SECTION

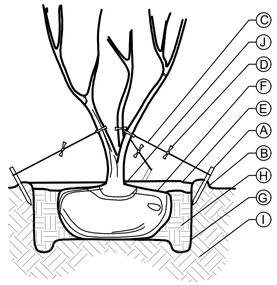
LEGEND

- (A) 2" X 2" X8' STEEL POST APPROVED STAKES, 3 PER TREE, SPACED EQUALLY, DRIVEN 2' INTO GROUND
- (B) 4" EARTH SAUCER (12" WIDE)
- (C) ArborTie PRODUCT INSTALLED PER CITY-APPROVED MANUFACTURER'S SPECIFICATIONS
- (D) 1" COMPOST & 3" CYPRESS MULCH, KEEP 3-4" BACK FROM ROOT FLARE. (RE: TECH. SPEC. 329301)
- (E) ROOT BALL: REMOVE BURLAP, BURLAP TIES, AND WIRE BASKET FROM TOP 2/3 OF ROOT BALL. REMOVE ALL NYLON STRINGS, PLASTIC LINERS, AND OTHER SYNTHETIC MATERIALS FROM THE ENTIRE ROOT BALL.
- (F) PLANTING PIT SHALL BE EXCAVATED TWO TIMES WIDTH OF ROOT BALL. PIT DEPTH SHALL BE AS NEEDED TO SET ROOT BALL COLLAR AT PROPOSED FINISHED GRADE. PLACE ROOT BALL ON SOLID SOIL AND NOT LOOSE BACKFILL.
- (G) PIT BACKFILL SOIL (RE: TECH. SPEC. 329301)
- (H) UNDISTURBED EARTH
- (I) EXPOSE ROOT FLARE

TREE PLANTING (SINGLE TRUNK)



PLAN

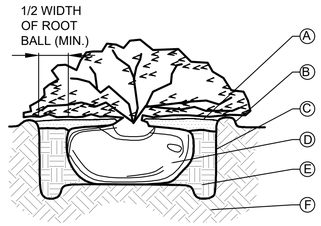


SECTION

LEGEND

- (A) 2" X 2" X 24" WOOD STAKE, 3 PER TREE, SPACED EQUALLY
- (B) 4" EARTH SAUCER (12" WIDE)
- (C) ArborTie PRODUCT INSTALLED PER CITY-APPROVED MANUFACTURER'S SPECIFICATIONS
- (D) WARNING FLAGS
- (E) 1" COMPOST & 3" CYPRESS MULCH, KEEP 3-4" BACK FROM ROOT (RE: TECH. SPEC. 329301)
- (F) ROOT BALL: REMOVE BURLAP, BURLAP TIES, AND WIRE BASKET FROM TOP 2/3 OF ROOT BALL. REMOVE ALL NYLON STRINGS, PLASTIC LINERS, AND OTHER SYNTHETIC MATERIALS FROM THE ENTIRE ROOT BALL.
- (G) PLANTING PIT SHALL BE EXCAVATED TWO TIMES WIDTH OF ROOT BALL. PIT DEPTH SHALL BE AS NEEDED TO SET ROOT BALL COLLAR AT PROPOSED FINISHED GRADE. PLACE ROOT BALL ON SOLID SOIL AND NOT LOOSE BACKFILL.
- (H) PIT BACKFILL SOIL (RE: TECH. SPEC. 329301)
- (I) UNDISTURBED EARTH
- (J) EXPOSE ROOT

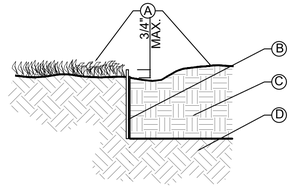
TREE PLANTING (MULTI-TRUNK)



LEGEND

- (A) 1" COMPOST & 3" CYPRESS (RE: TECH. SPEC. 329301)
- (B) 4" EARTH SAUCER (12" WIDE)
- (C) PLANTING PIT SHALL BE EXCAVATED TWO TIMES WIDTH OF ROOT BALL. PIT DEPTH SHALL BE AS NEEDED TO SET ROOT BALL COLLAR AT PROPOSED FINISHED GRADE. PLACE ROOT BALL ON SOLID SOIL AND NOT LOOSE BACKFILL. SCARIFY SIDES OF PIT, PROVIDE CONTINUOUS PIT FOR MASS BED PLANTINGS.
- (D) ROOT BALL: REMOVE BURLAP, BURLAP TIES, AND WIRE BASKET FROM TOP 2/3 OF ROOT BALL. REMOVE ALL NYLON STRINGS, PLASTIC LINERS, AND OTHER SYNTHETIC MATERIALS FROM THE ENTIRE ROOT BALL.
- (E) PIT BACKFILL SOIL (RE: TECH. SPEC. 329301)
- (F) UNDISTURBED EARTH

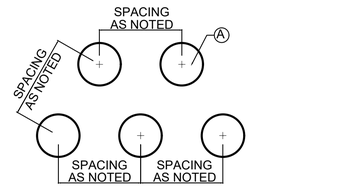
SHRUB PLANTING



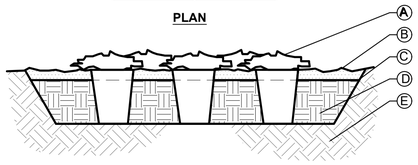
LEGEND

- (A) DIFFERENT PLANTING TREATMENT
- (B) STEEL EDGING WHERE BEDS MEET LAWN PER CITY APPROVED-MANUFACTURER'S INSTRUCTIONS
- (C) PIT BACKFILL SOIL (RE: TECH. SPEC. 329301)
- (D) UNDISTURBED EARTH

STEEL EDGING



PLAN

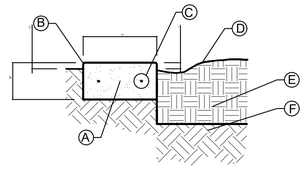


SECTION

LEGEND

- (A) GROUND COVER PER PLAN (RE: TECHNICAL SPECIFICATION 329300
- (B) 1" COMPOST AND 3" CYPRESS MULCH (RE. TECH. SPEC. 329301
- (C) STEEL EDGING WHERE BEDS MEET LAWNS (RE" STEEL EDGING DETAIL SHEET)
- (D) PIT BACKFILL SOIL (RE: TECH. SPEC. 329301)
- (E) UNDISTURBED EARTH

GROUNDCOVER PLANTING



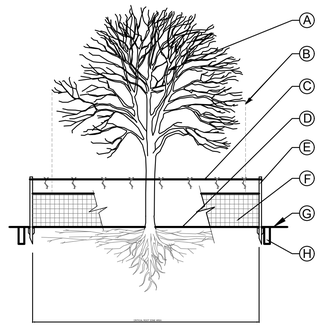
LEGEND

- (A) CLASS A CONCRETE (RE: TECH. SPEC. 321313) WITH SAWCUTS 1/8" TO 3/16" WIDE AND ONE-THIRD THE DEPTH OF THE ACTUAL THICKNESS AT 6' OC (MAXIMUM)
- (B) 1/2" TOOLED RADIUS EDGE (TYP.)
- (C) 2- #4 BAR CONTINUOUS
- (D) PLANTING BED OR SOD
- (E) PIT BACKFILL SOIL (RE: TECH. SPEC. 329301)
- (F) UNDISTURBED EARTH

CONCRETE MOW STRIP

LEGEND:

- (A) EXISTING TREE (S) TO REMAIN
- (B) DRIP LINE OF EXISTING TREE (TYP.)
- (C) CONTINUOUS NYLON TIE STRING TIED TO STAKE TOPS W/ 2' TUNDRA WEIGHT ORANGE STREAMERS AT 3' O.C.
- (D) EXISTING GRADE TO REMAIN
- (E) 2" X 2" X 8' STEEL POST T-STAKES, 8' O.C. MIN., DRIVEN 2' INTO GROUND AT (OR OUTSIDE) TREE DRIP LINE
- (F) 4' MIN. HEIGHT ORANGE PLASTIC FENCING INSTALLED PER CITY-APPROVED MANUFACTURER'S SPECIFICATIONS
- (G) EXISTING GRADE TO BE DISTURBED
- (H) ROOT PRUNING TRENCH 12" OUTSIDE FENCE



NOTES FOR TREE PROTECTION

1. PERFORM ROOT PRUNING ON ALL EXISTING TREES TO REMAIN WHERE CONSTRUCTION ACTIVITY FALLS WITHIN DRIP LINE OR EXISTING TREES.
2. NO GRADING, PARKING, STORAGE OR ANY OTHER CONSTRUCTION ACTIVITY WITHIN FENCED AREA.
3. REFER TO TECHNICAL SPECIFICATION 329600.
4. TREE PRUNING BY CERTIFIED TREE TRIMMER OR ARBORIST.

TREE PROTECTION

CITY OF CELINA

TREE PLANTING DETAILS 1

STANDARD DETAILS

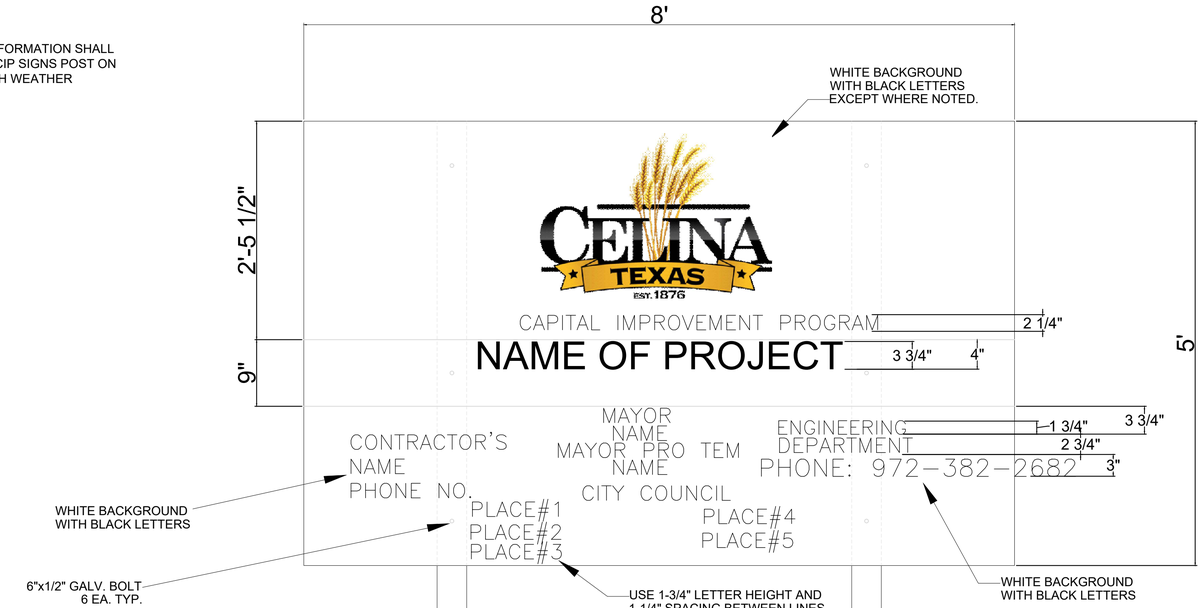
CELINA TEXAS est. 1876

DESIGNED BY: G.F	REV. BY	DATE	SYMBOL
DRAWN BY: J.P			JOB NO.:
CHECKED BY: G.F			SHEET NO.: TP - 1

DATE: JANUARY 2016

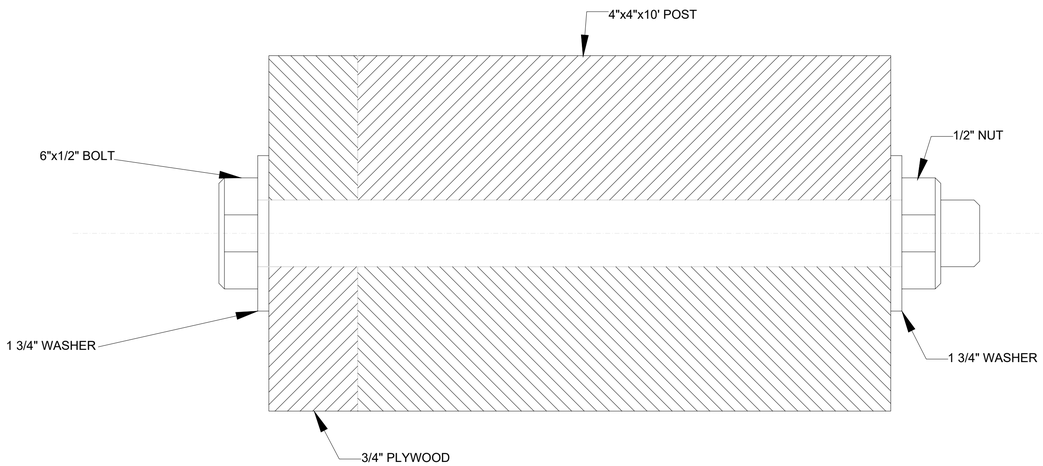
P-201511-02

SWPPP NOTICE AND INFORMATION SHALL BE ATTACHED TO ALL CIP SIGNS POST ON SEPARATE BOARD WITH WEATHER PROTECTION.



GENERAL NOTES:

1. SIGN BOARD SHALL BE 3/4" EXTERIOR RATED PLYWOOD SANDED ON FACE SIDE.
2. POST SHALL BE 4"x4"x10' PRESSURE TREATED MOUNTED 30" MIN. IN GROUND.
3. 6 EA. BOLTS SHALL BE 6"x1/2" GALV. BOLTS.



POST X-SECTION

STANDARD CAPITAL IMPROVEMENT PROJECT SIGN DETAIL

CITY OF CELINA

PROJECT SIGN DETAILS

STANDARD DETAILS

CELINA TEXAS EST. 1876

DESIGNED BY: G.F	REV.	BY	DATE	SYMBOL	DATE: JANUARY 2016
DRAWN BY: J.P					JOB NO.:
CHECKED BY: G.F					SHEET NO.: PJS- 1

P-201511-02