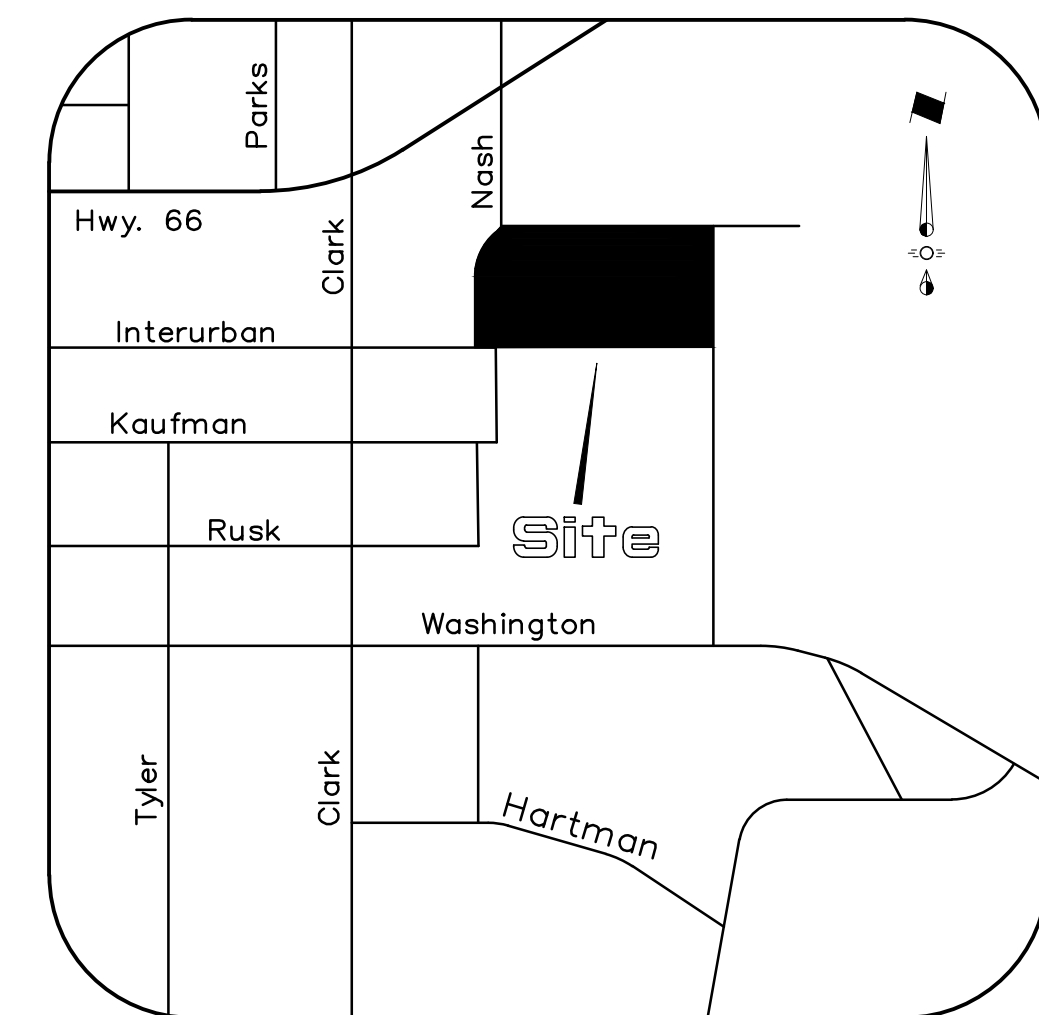


ENGINEERING PLANS FOR DOBBS ELEMENTARY SCHOOL REPLACEMENT

**Rockwall Independent
School District**

Index Of Drawings

Cover Sheet
Final Plat
Site Plan
C1.00 Paving Plan
C2.00 Grading Plan
C3.00 Existing Drainage Area Map
C3.01 Proposed Drainage Area Map
C3.02 Detention Calculations
C3.03 Storm Sewer Plan
C3.04 Storm Sewer Profiles
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C5.01 Erosion Control Notes
C6.00 Site Details
L1.1 Treescape Plan
L1.2 Landscape Plan
L1.3 Landscape Details



Vicinity Map

Prepared For
Rockwall Independent School District
1191 T.L. Townsend Drive
Rockwall, Texas 75087
Telephone 972 772-1148

Engineer

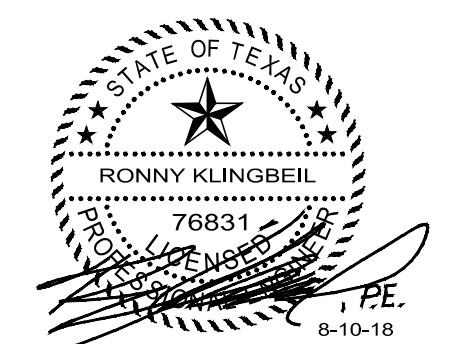


RLK ENGINEERING, INC.
111 West Main
Allen, Texas 75013
(972) 359-1733 Off
(972) 359-1833 Fax
Texas Registration No. 579

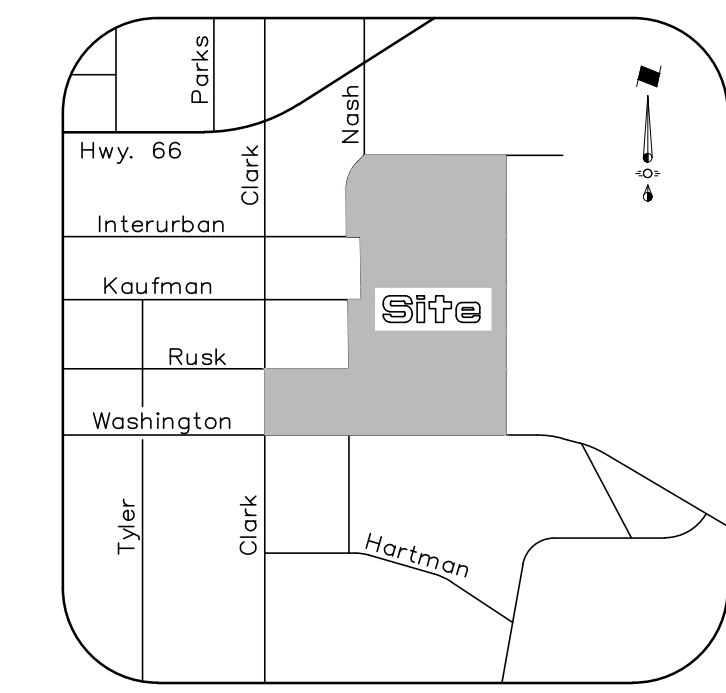
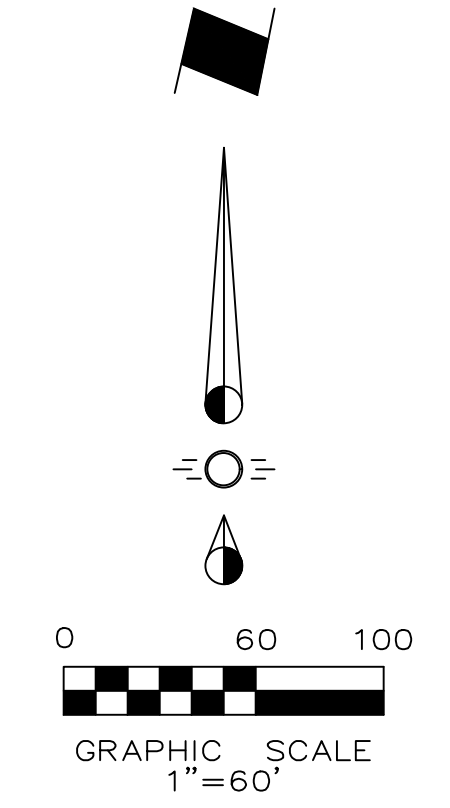
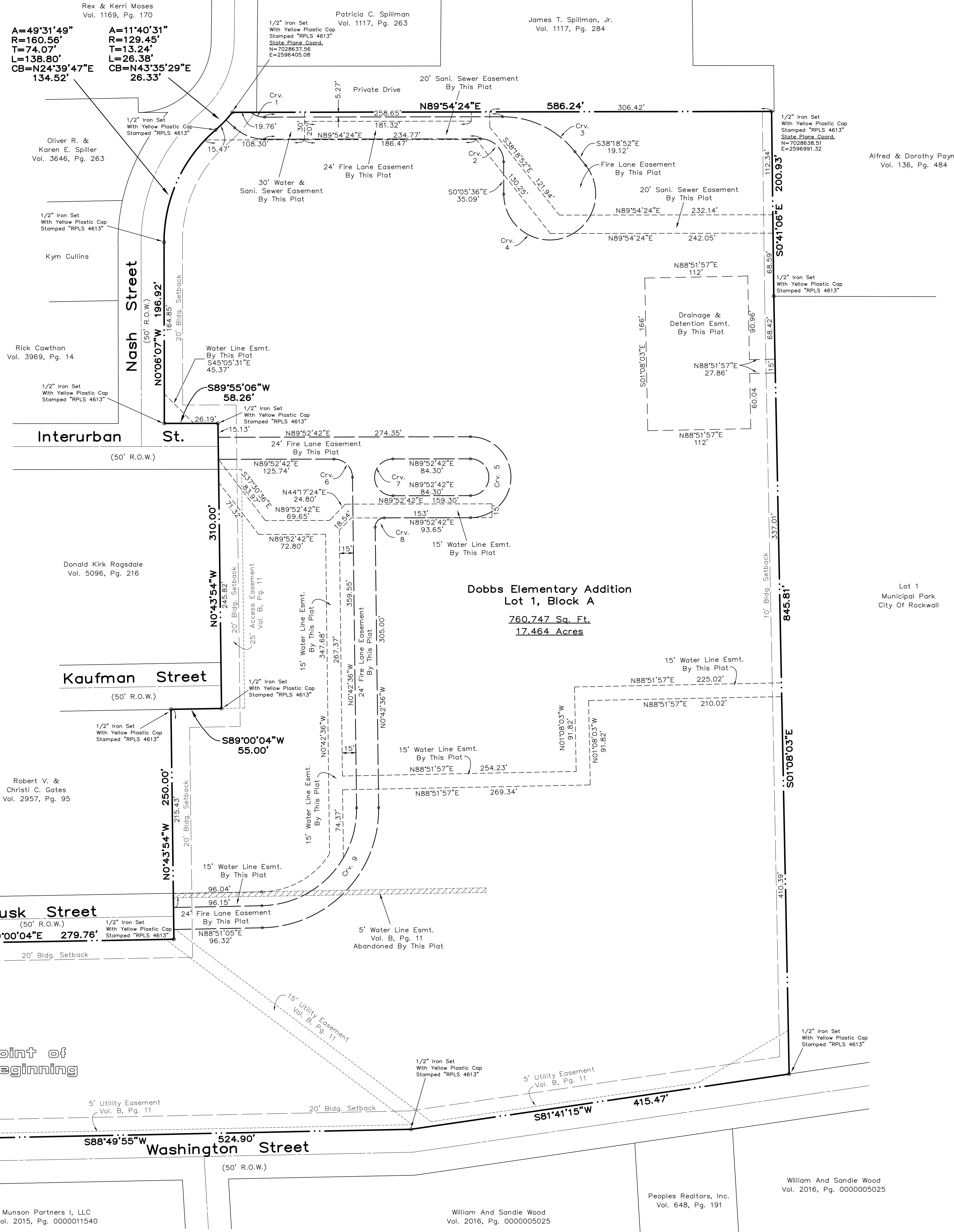


**RECORD
DRAWING**

To the best of our knowledge, RLK Engineering, Inc. hereby states that this plan is as built. Information provided is based on surveying at the site and information provided by contractor.



NOTE:
Prior to beginning any construction or construction staking, it shall be the Contractor's responsibility to contact the civil engineer to insure that all parties are in possession of the most current set of construction documents.



VICINITY MAP
NTS

	Inner	Outer	Inner	Outer
1	A=37°54'04" R=25.00' T=8.58' L=16.54'	A=41°44'35" R=49.00' T=18.68' L=35.70'	A=89°24'42" R=20.00' T=19.80' L=31.21'	
2	A=90°00'00" R=25.00' T=25.00' L=39.27'		A=180°00'00" R=20.00' T=	
3		A=51°46'44" R=100.00' T=48.53' L=90.37'	A=90°35'18" R=10.00' T=10.10' L=15.81'	
4		A=218°13'07" R=50.00' T=143.30' L=190.43'	A=89°33'41" R=105.00' T=104.20' L=164.13'	A=89°33'41" R=129.00' T=128.02' L=201.65'
5	A=180°00'00" R=20.00' T=	A=180°00'00" R=44.00' T=		
	L=62.83'	L=138.23'		

SHEET 1 OF 2
FINAL PLAT
DOBBS ELEMENTARY ADDITION
LOT 1, BLOCK A
Being A Replat Of
Rockwall School Addition No. 1
Recorded In Volume B, Page 11, P.R.R.C.T.
17.464 Acres Situated In The
R. BALLARD SURVEY ~ ABST. 29
CITY OF ROCKWALL
ROCKWALL COUNTY, TEXAS

Owner
Rockwall Independent School District
1191 T.L. Townsend Drive
Rockwall, Texas 75087
Telephone 972 772-1148

Engineer
RLK Engineering, Inc.
Texas Registration No. 579
111 West Main Street
Allen, Texas 75013
Telephone 972 359-1733

Surveyor
Surdukan Surveying, Inc.
Firm No. 10069500
PO Box 126
Anna, Texas 75409
Telephone 972 924-8200
March 15, 2017

Gregory Massey
Vol. 2015, Pg. 0000013136

Frederick W. &
Sandra G. Chapman
Vol. 1542, Pg. 278

Ronald & Lisa Rich
Vol. 3066, Pg. 290

Munson Partners I, LLC
Vol. 2015, Pg. 0000011540

William And Sandie Wood
Vol. 2016, Pg. 0000005025

Peoples Realtors, Inc.
Vol. 648, Pg. 191

William And Sandie Wood
Vol. 2016, Pg. 0000005025

OWNER'S CERTIFICATION

STATE OF TEXAS
COUNTY OF ROCKWALL

WHEREAS, the Rockwall Independent School District is the owner of a tract of land situated in the R. Ballard Survey, Abstract No. 29, City of Rockwall, Rockwall County, Texas, and being part of Rockwall School Addition No. 1, an addition to the City of Rockwall as recorded in Volume B, Page 11, Plat Records of Rockwall County, Texas, and being more particularly described as follows:

BEGINNING at a 1/2" iron rod set with plastic cap stamped "RPLS 4613" for corner at the intersection of the north line of Washington Street, and the east line of Clark Street;

THENCE N03°25'34"W, with the east line of Clark Street, a distance of 212.81 feet to a 1/2" iron rod set with plastic cap stamped "RPLS 4613" for corner in the south line of Rusk Street;

THENCE N89°00'04"E, with the south line of Rusk Street, a distance of 279.76 feet to a 1/2" iron rod set with plastic cap stamped "RPLS 4613" for corner;

THENCE N00°43'54"W, a distance of 250.00 feet to a 1/2" iron rod set with plastic cap stamped "RPLS 4613" for corner in the south line of Kaufman Street;

THENCE S89°00'04"W, with the south line of Kaufman Street, a distance of 55.00 feet to a 1/2" capped iron rod set with plastic cap stamped "RPLS 4613" for corner;

THENCE N00°43'54"W, a distance of 310.00 feet to a capped 1/2" iron rod set for corner in the north line of Interurban Street;

THENCE S89°55'06"W, with the north line of Interurban Street, a distance of 58.26 feet to a capped 1/2" iron rod set for corner in the east line of Nash Street;

THENCE N00°06'07"W, with the east line of Nash Street, a distance of 196.92 feet to a 1/2" capped iron rod set for corner, said point being the beginning of a curve to the right having a central angle of 49°31'49", a radius of 160.56 feet, a tangent length of 74.07 feet, and a chord bearing N24°39'47"E, 134.52 feet;

THENCE in a northeasterly direction along said curve to the right, and with the east line of Nash Street, an arc distance of 138.80 feet to a 1/2" iron rod set with plastic cap stamped "RPLS 4613" for corner and the beginning of a reverse curve to the left having a central angle of 11°40'31", a radius of 129.45 feet, a tangent length of 13.24 feet, and a chord bearing N43°35'29"E, 26.33 feet;

THENCE in a northeasterly direction along said curve to the left, and with the east line of Nash Street, an arc distance of 26.38 feet to a 1/2" capped iron rod set with plastic cap stamped "RPLS 4613" for corner and the end of said curve, said point being in a private drive;

THENCE N89°54'24"E, along said private drive, a distance of 586.24 feet to a 1/2" iron rod set with plastic cap stamped "RPLS 4613" for corner;

THENCE S00°41'06"E, a distance of 200.93 feet to a 1/2" iron rod set with plastic cap stamped "RPLS 4613" for corner;

THENCE S01°08'03"E, a distance of 845.81 feet to a 1/2" iron rod set with plastic cap stamped "RPLS 4613" for corner in the aforementioned north line of Washington Street;

THENCE S81°41'15"W, with the north line of Washington Street, a distance of 415.47 feet to a 1/2" iron rod set with plastic cap stamped "RPLS 4613" for corner;

THENCE S88°49'55"W, with the north line of Washington Street, a distance of 524.90 feet to the POINT OF BEGINNING and CONTAINING 760,747 square feet, or 17.464 acres of land.

BASIS OF BEARINGS:

The bearings shown are derived from Texas WDS RTK Network, Texas State Plane Coordinate System, Nad83, North Central Zone, Nad 83 (CORS96) Epoch 2002.0, vertical positions are referenced using NAVD88 using (GEOID03).

GENERAL NOTES

It shall be the policy of the City of Rockwall to withhold issuing building permits until all streets, water, sewer, and storm drainage systems have been accepted by the City. The approval of a plat by the City does not constitute any representation, assurance or guarantee that any building within such plat shall be approved, authorized or permit therefore issued, nor shall such approval constitute any representation, assurance, or guarantee by the City of the adequacy and availability for water for personal use and fire protection within such plat, as required under Ordinance 83-54.

STATE OF TEXAS
COUNTY OF ROCKWALL

We, Rockwall Independent School District, the undersigned owner of the land shown on this plat, and designated Lot 1, Block A, Dobbs Elementary Addition to the City of Rockwall, Texas, and whose name is subscribed hereto, hereby dedicate to the use of the public forever, all streets, alleys, parks, water courses, drains, easements, and public places thereon shown for the purpose and consideration therein expressed.

We understand and do hereby reserve the easement strips shown on this plat for the purposes stated and for the mutual use and accommodation of all utilities desiring to use or using same. We also understand the following:

- 1. No buildings shall be constructed upon, over or across the utility easements as described herein.
2. Any public utility shall have the right to remove and keep removed all or part of any buildings, fences, trees, shrubs or other growths or improvements which in any way endanger or interfere with construction, maintenance, or efficiency of their respective system on any of these easement strips; and any public utility shall at all times have the right of ingress or egress to, from, and upon the said easement strips for the purpose of construction, reconstruction, inspecting, patrolling, and either adding to or removing all or part of their respective system without the necessity of, at any time, procuring the permission of anyone.
3. The City of Rockwall will not be responsible for any claims of any nature resulting from or occasioned by the establishment of grade of streets in the subdivision.
4. The developer and subdivision engineer shall bear total responsibility for storm drain improvements.
5. The developer shall be responsible for the necessary facilities to provide drainage patterns and drainage controls such that properties within the drainage area are not adversely affected by storm drainage from the development.
6. Property owner is responsible for maintaining, repairing, and replacing detention/drainage system.
7. No house, dwelling unit, or other structure shall be constructed on any lot in this addition by the owner or any other person until the developer and/or owner has complied with all requirements of the Subdivision Regulations of the City of Rockwall regarding improvements with respect to the entire block on the street or streets on which property abuts, including the actual installation of streets with the required base and paving, curb and gutter, water and sewer, drainage structures, storm structures, storm sewers, and alleys, all according to the specifications of the City of Rockwall; or

Until an escrow deposit, sufficient to pay for the cost of such improvements, as determined by the city's engineer and/or city administrator, computed on a private commercial rate basis, has been made with the city secretary, accompanied by an agreement signed by the developer and/or owner, authorizing the city to make such improvements at the prevailing private commercial rates, or have been made by a contractor and pay for the same out of the escrow deposit, should the developer and/or owner fail or refuse to install the required improvements within the time stated in such written agreement, but in no case shall the City be obligated to make such improvements itself. Such deposit may be used by the owner and/or developer as progress payments as the work progresses in making such improvements by making certified requisitions to the city secretary, supported by evidence of work done, or

Until the developer and/or owner files a corporate surety bond with the city secretary in a sum equal to the cost of such improvements for the designated area, guaranteeing the installation thereof within the time stated in the bond, which time shall be fixed by the city council of the City of Rockwall.

We further acknowledge that the dedications and/or exactions made herein are proportional to the impact of the Subdivision upon the public services required in order that the development will comport with the present and future growth needs of the City. We, our successors and assigns hereby waive any claim, damage, or cause of action that We may have as a result of the dedication of exactions made herein.

Rockwall Independent School District
By:
Title:

STATE OF TEXAS
COUNTY OF ROCKWALL

BEFORE ME, the undersigned authority, a Notary Public in and for the State of Texas, on this day personally appeared _____, known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that he executed the same for the purposes and considerations therein expressed and in the capacity therein stated.

GIVEN under my hand and seal of office, this the _____ day of _____, 2017.

Notary Public in and for the State of Texas

NOW, THEREFORE KNOW ALL MEN BY THESE PRESENTS:

That I, David J. Surdukan, do hereby certify that I prepared this plat from an actual and accurate survey of the land, and that the corner monuments shown thereon were properly placed under my personal supervision.

David J. Surdukan, RPLS
Registration No. 4613
TX Firm No. 10069500



RECOMMENDED FOR FINAL APPROVAL

Planning and Zoning Commission

Date

APPROVED

I hereby certify that the above and foregoing plan of an addition to the City of Rockwall, Texas was approved by the City Council of the City of Rockwall on the _____ day of _____, 2017.

This approval shall be invalid unless the approved plat for such addition is recorded in the office of the County Clerk of Rockwall County, Texas, within one hundred eighty (180) days from said date of final approval.

WITNESS OUR HANDS, this _____ day of _____, 2017

Mayor, City of Rockwall

City Secretary

City Engineer

SHEET 2 OF 2
FINAL PLAT

DOBBS ELEMENTARY ADDITION

LOT 1, BLOCK A

Being A Replat Of
Rockwall School Addition No. 1
Recorded In Volume B, Page 11, P.R.R.C.T.

17.464 Acres Situated In The
R. BALLARD SURVEY ~ ABST. 29
CITY OF ROCKWALL
ROCKWALL COUNTY, TEXAS

Owner
Rockwall Independent School District
1191 T.L. Townsend Drive
Rockwall, Texas 75087
Telephone 972 772-1148

Engineer
RLK Engineering, Inc.
Texas Registration No. 579
111 West Main Street
Allen, Texas 75013
Telephone 972 359-1733

Surveyor
Surdukan Surveying, Inc.
Firm No. 10069500
PO Box 126
Anna, Texas 75409
Telephone 972 924-8200
March 15, 2017

Rex & Kerri Moses
Zoned SF-7

Patricia C. Spillman
Zoned SF-7

James T. Spillman, Jr.
Zoned SF-7

Alfred & Dorothy Payne
Zoned SF-7

A=11°40'31"
R=129.45'
T=13.24'
L=26.38'
CB=N43°35'29"E
26.33'

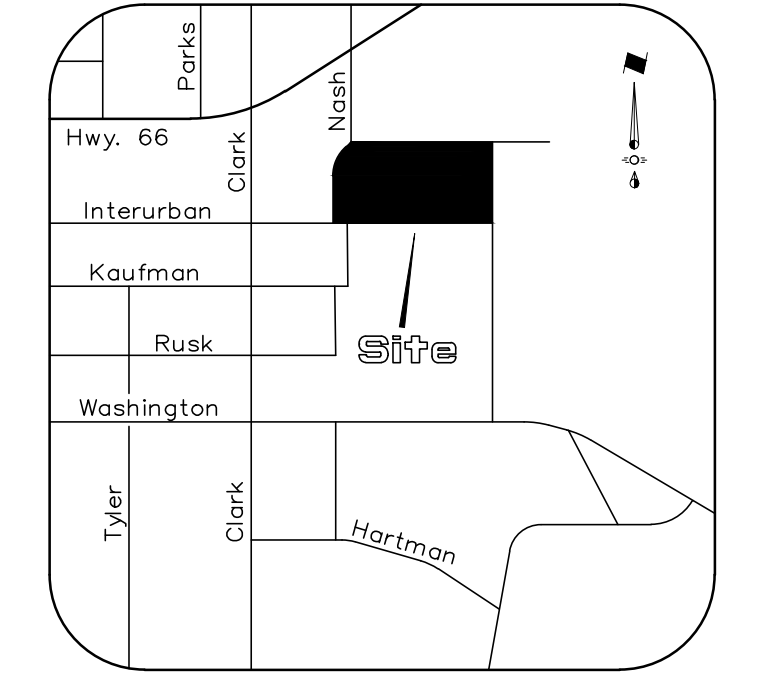
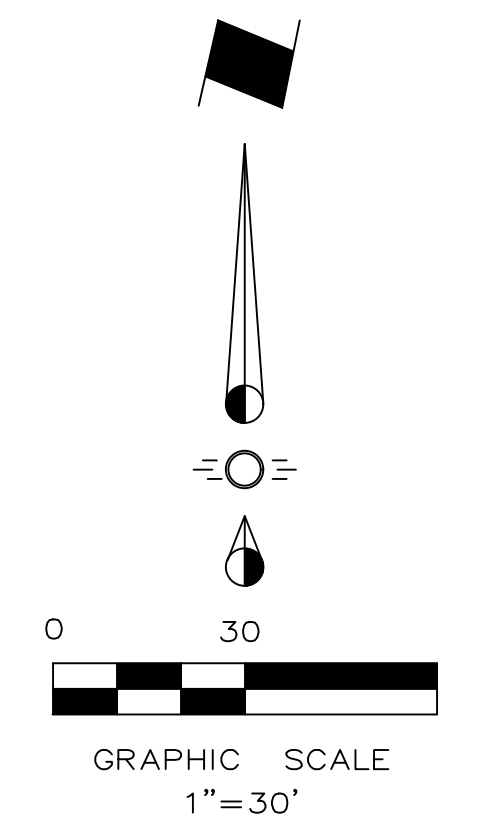
A=49°31'49"
R=160.56'
T=74.07'
L=138.80'
CB=N24°39'47"E
134.52'

Oliver R. &
Karen E. Spiller
Zoned SF-7

Kym Cullins
Zoned SF-7

Rick Cawthon
Zoned SF-7

Donald Kirk Ragsdale
Zoned SF-7



VICINITY MAP
NTS

SYNOPSIS

Zoning	SF-7
Total Lot Area	760,747 Sq. Ft.
Site Area	229,815 Sq. Ft.
Use	Elementary School
Building Area	93,281 Sq. Ft.
Building Height	2-Story (35'-2")
Parking Required	31 Spaces
Existing Parking	140 Spaces
New Parking	29 Spaces
HC Parking Required	6 Spaces
HC Parking Provided	9 Spaces
Total Parking Provided	169 Spaces
Impervious Area	102,640 Sq. Ft.
Open Space	127,175 Sq. Ft.

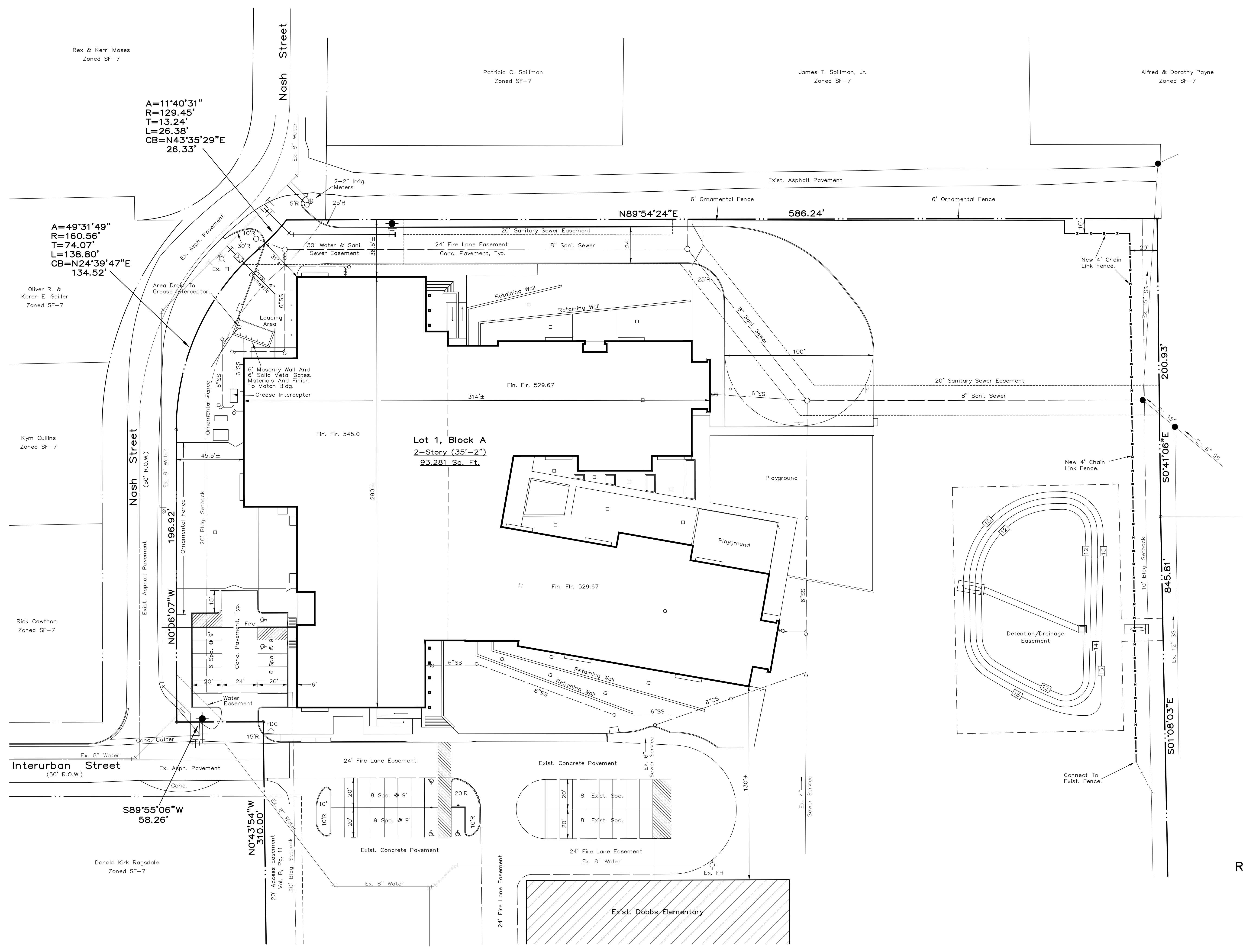
Lot 1
Municipal Park
City Of Rockwall
Zoned SF-7

SITE PLAN
**DOBBS ELEMENTARY
ADDITION**

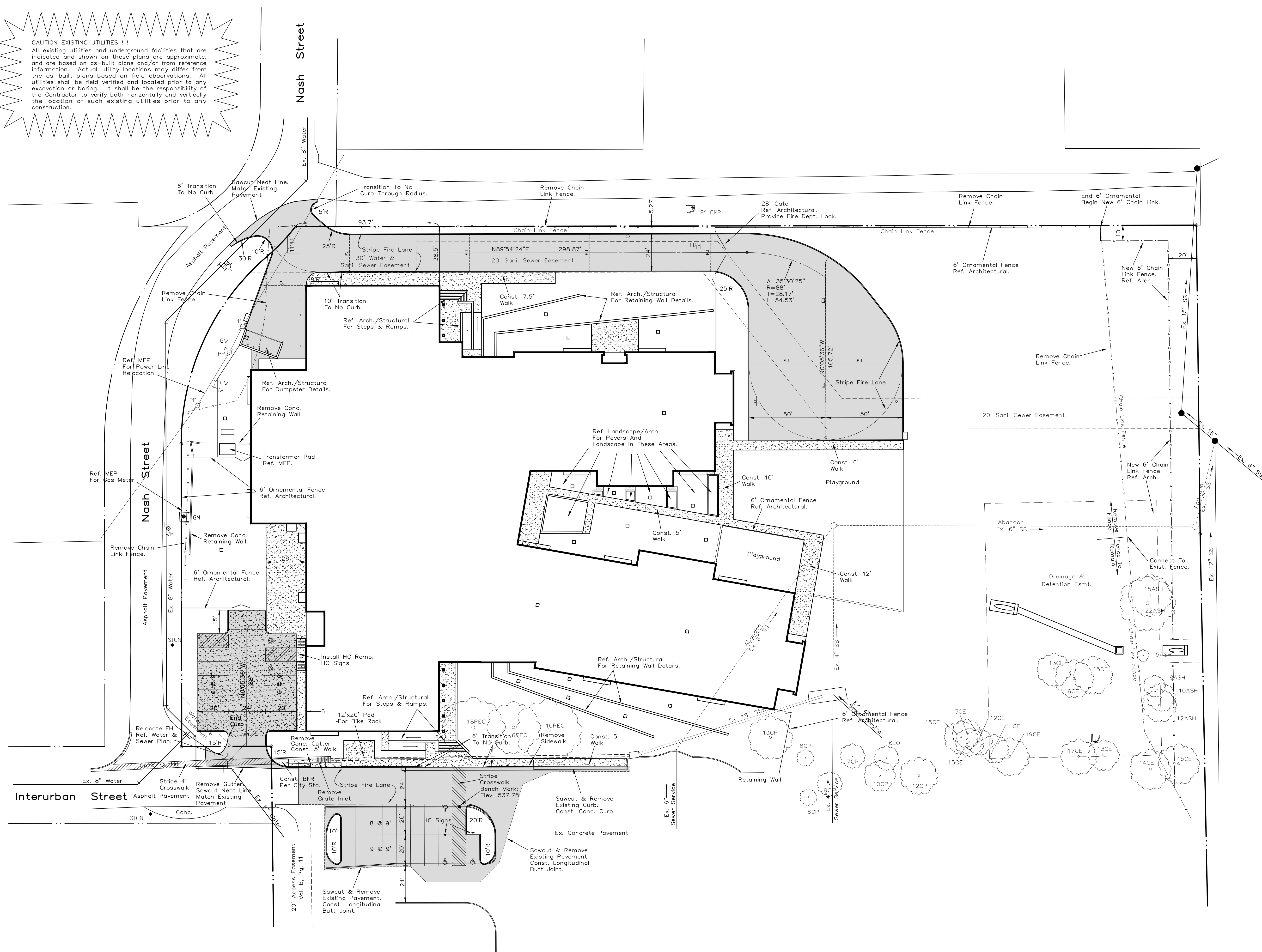
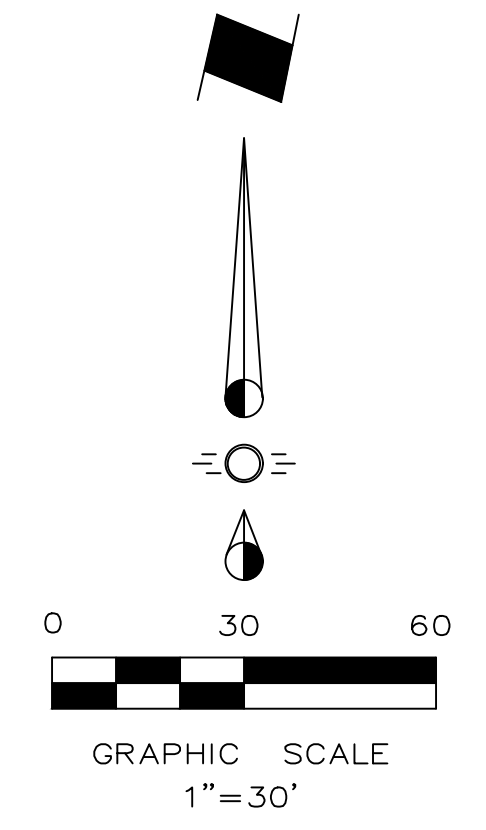
LOT 1, BLOCK A
Zoned SF-7
17.464 Acres Situated In The
R. BALLARD SURVEY ~ ABST. 29
ROCKWALL, ROCKWALL COUNTY, TEXAS

Owner
Rockwall Independent School District
1191 T.L. Townsend Drive
Rockwall, Texas 75087
Telephone 972 772-1148

Engineer
RLK Engineering, Inc.
Texas Registration No. 579
111 West Main Street
Allen, Texas 75013
Telephone 972 359-1733
March 1, 2017
Case No. SP2016-028



CAUTION EXISTING UTILITIES!!!!
 All existing utilities and underground facilities that are indicated and shown on these plans are approximate, and are based on as-built plans and/or from reference information. Actual utility locations may differ from the as-built plans based on field observations. All utilities shall be field verified and located prior to any excavation or boring. It shall be the responsibility of the Contractor to verify both horizontally and vertically the location of such existing utilities prior to any construction.



PAVING NOTES

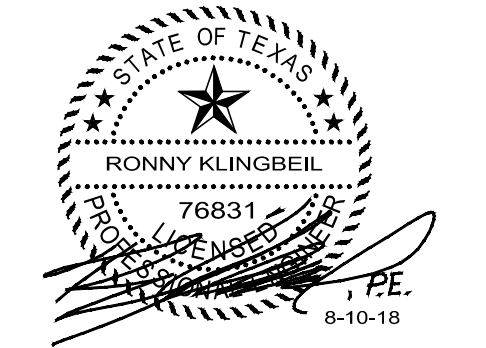
1. All materials and construction shall conform to the City of Rockwall Standards and Specifications, and North Central Texas Council of Governments Standard Specifications for Public Works Construction, 4th Edition.
2. It shall be the responsibility of the Contractor to protect all public and non-public utilities in the construction of this project. All manholes, cleanouts, valve boxes, fire hydrants, etc. must be adjusted to proper line and grade by the Contractor prior to and after the placing of permanent paving and/or vegetation. Utilities must be maintained to proper line and grade during construction of this project.
3. The Contractor shall be responsible for coordinating with all the appropriate utility companies for the location of all utilities within the construction area.
4. The Paving Contractor shall not place permanent pavement until all sleeving for irrigation, electric, gas, telephone, cable TV, site lighting, etc. has been installed. It shall be the Paving Contractor's responsibility to insure that all sleeving is in place prior to placing permanent paving.
5. All paving and earthwork operations shall conform to the recommendations in the Geotechnical Exploration Report.
6. All dimensions are to face of curb unless otherwise noted.
7. Refer to Architectural Plans for exact building and related sidewalk dimensions.
8. All curb return radii are 3' unless otherwise noted.
9. All dimensions are perpendicular to the drive centerlines and/or property lines.
10. Fire lanes shall be striped in accordance with the City of Rockwall requirements.
11. Construct barrier free ramps at all driveway and street intersections.
12. Refer to Landscape Plan for tree removal/preservation.

LEGEND

- 6" 4000 PSI Reinf. Conc. Pavement (Min. 6.5 Sack Mix) No. 3 Bars 18" OCEW With 8" Compacted Subgrade
- 5" 4000 PSI Reinf. Conc. Pavement (Min. 6.5 Sack Mix) No. 3 Bars 18" OCEW With 8" Compacted Subgrade
- 4" 3000 PSI Reinf. Conc. Sidewalk (Min. 5.5 Sack Mix) No. 3 Bars 18" OCEW
- Remove Concrete Pavement
- Proposed Expansion Joint

RECORD DRAWING

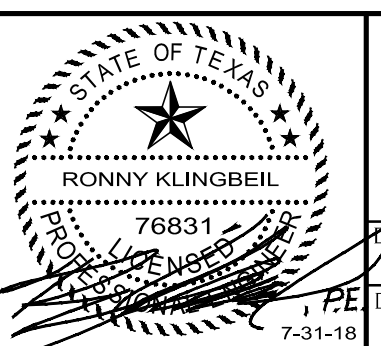
To the best of our knowledge, RLK Engineering, Inc. hereby states that this plan is as built. Information provided is based on surveying at the site and information provided by contractor.



Aug 09, 2018 - 1:08pm User: rick

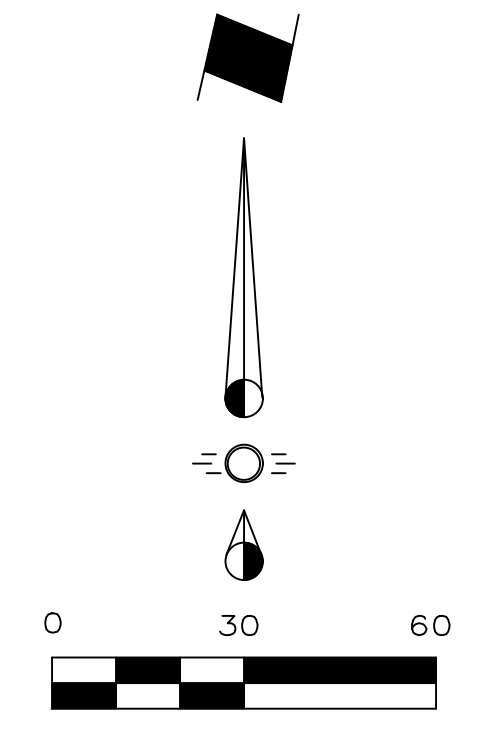
MISC. INFORMATION	REVISION	DATE	DESCRIPTION
NOTE: Prior to beginning any construction or construction staking, it shall be the Contractor's responsibility to contact the civil engineer to insure that all parties are in possession of the most current set of construction documents.			

RLK ENGINEERING
 RLK ENGINEERING, INC.
 111 West Main
 Allen, Texas 75013
 (972) 359-1733 Off
 (972) 359-1833 Fax
 Texas Registration No. 579



PAVING PLAN		DOBBS ELEMENTARY SCHOOL		ROCKWALL, TEXAS	
SIGNED BY: RLK Engineering	TECH REVIEW: RLK	DRAWING FILE: 16001 PAV.dwg	DRAWING SCALE: 1"=30'	SHEET:	C1.00
DRAWN BY: RLK Engineering	PEER REVIEW: RLK	DRAWING DATE: 6-6-17	PROJECT NUMBER: RLK: 16001		

CAUTION EXISTING UTILITIES!!!!
 All existing utilities and underground facilities that are indicated and shown on these plans are approximate, and are based on as-built plans and/or from reference information. Actual utility locations may differ from the as-built plans based on field observations. All utilities shall be field verified and located prior to any excavation or boring. It shall be the responsibility of the Contractor to verify both horizontally and vertically the location of such existing utilities prior to any construction.



- GRADING NOTES**
- All materials and construction shall conform to the City of Rockwall Standards and Specifications, and North Central Texas Council of Governments Standard Specifications for Public Works Construction, Latest Edition.
 - Prior to starting construction, the Contractor shall make certain that all required permits and approvals have been obtained. No construction or fabrication shall begin until the Contractor has received and thoroughly reviewed all plans and other documents approved by all of the permitting authorities.
 - In the event an item is not covered in the City's specs, the City Engineer's decision shall apply.
 - Contractor shall meet O.S.H.A. requirements for trench safety.
 - Barricading, traffic control, and project signs shall conform to Texas Department of Transportation.
 - The Contractor shall verify the suitability of all existing and proposed site conditions, including grades and dimensions before commencement of any construction. In the event of any conflict, and prior to commencement of any construction, immediately notify Engineer. Minor adjustments of finish grade to accomplish spot drainage are acceptable if necessary, upon prior approval of Engineer. All paving installed shall "flush out" at any juncture with existing paving. All islands shall be crowned to allow positive drainage over top of curb.
 - The locations of underground utilities shown on this plan are based on field surveys and local utility company records. It shall be the Contractor's full responsibility to contact the various utility companies to locate their utilities prior to starting construction. Any damage to existing utilities is to be repaired at Contractor's expense. Contractor shall adjust all utilities (proposed and existing) to finished grade.
 - Proposed spot elevations are finished grade elevations.
 - All subgrade preparation shall be as directed in accordance with the Geotechnical Report.
 - All proposed grades in landscaped areas are finished grade elevations. Contractor to allow for seeding or sodding of these areas.
 - Any damage to adjoining property during construction shall be repaired to pre construction conditions or better at the expense of the Contractor.
 - Erosion control shall be in place prior to the disturbance of any existing surface.
 - All sidewalk slopes including crosswalks, shall not exceed the following ADA requirements:
 1:20 longitudinal (along the walk)
 1:50 per foot transverse (across the walk)
 - All accessible parking space slopes including walks aisles, shall not exceed 2.0% or 1:50 in any direction.
 - It shall be the Contractor's responsibility to remove excess earthwork material from the site at no additional cost to the owner.
 - If additional earthwork material is required to achieve the grades indicated, it shall be imported by the Contractor at no additional cost to the owner.
 - Maximum slope shall not exceed 4:1.
 - Refer to Landscape Plan for tree removal/preservation.
 - No paving (including slab) can be constructed until the detention system is in place and fully functioning per approved Engineering Plan, including either sodding or installing anchored, seeded Curlex on the sides and bottom of the detention pond.
 - All fill to be compacted to a minimum of 95% standard density using a sheep's foot roller.

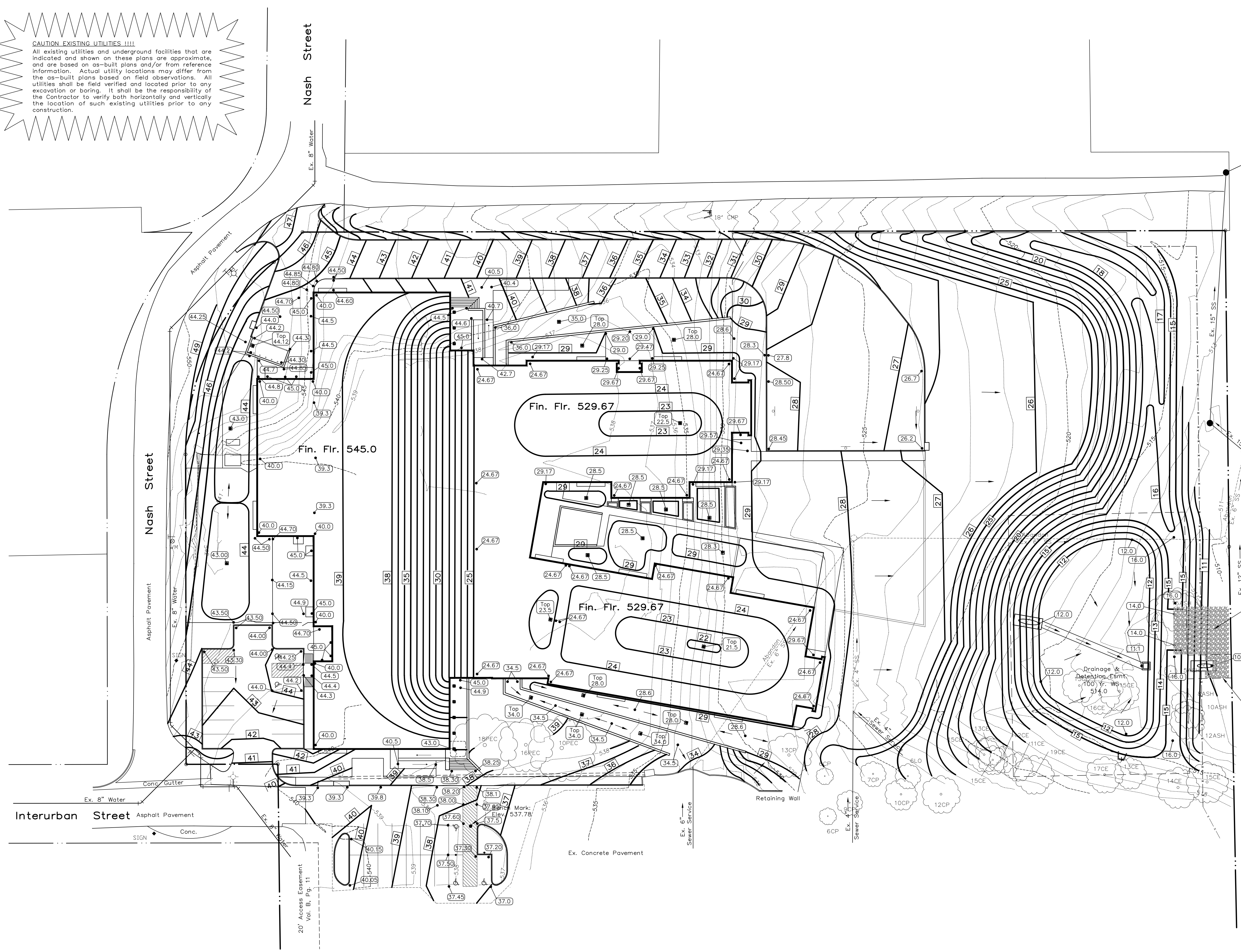
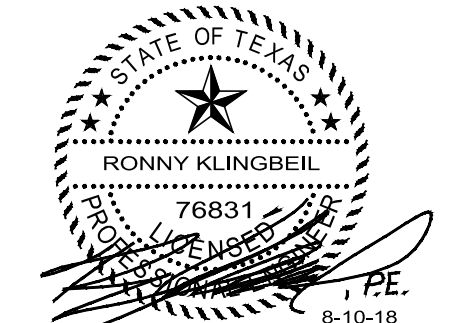
Detention Pond
Emergency Overflow
Install 30"x35"x12" Thick
#8 Nominal Diameter
Grouted Rock Rip Rap
Top To Match Proposed
And Existing Ground.

Detention Pond
Emergency Overflow
Install 15"x15"x12" Thick
#8 Nominal Diameter
Grouted Rock Rip Rap
Top To Match Proposed
And Existing Ground.

- LEGEND**
- XX.X Proposed Spot Elevation
 - 26.21 Existing Spot Elevation
 - 26 Proposed Contour
 - 526 Existing Contour
 - Direction Of Flow

RECORD DRAWING

To the best of our knowledge, RLK Engineering, Inc. hereby states that this plan is as built. Information provided is based on surveying at the site and information provided by contractor.

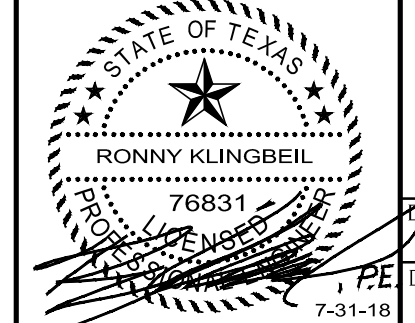


MISC. INFORMATION	REVISION	DATE	DESCRIPTION

NOTE:
 Prior to beginning any construction or construction staking, it shall be the Contractor's responsibility to contact the civil engineer to insure that all parties are in possession of the most current set of construction documents.

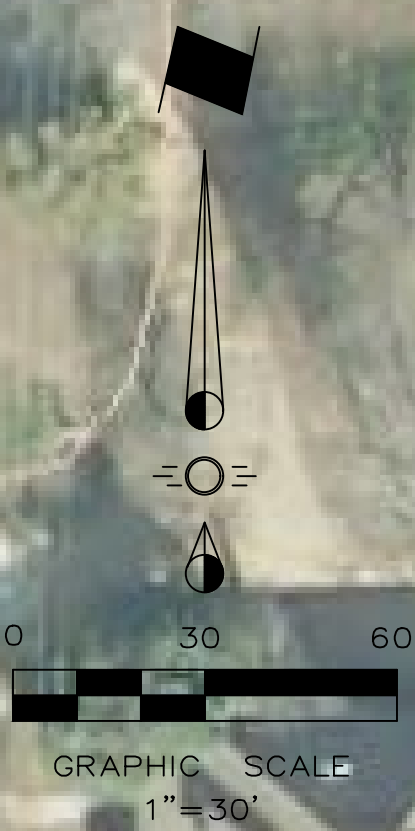
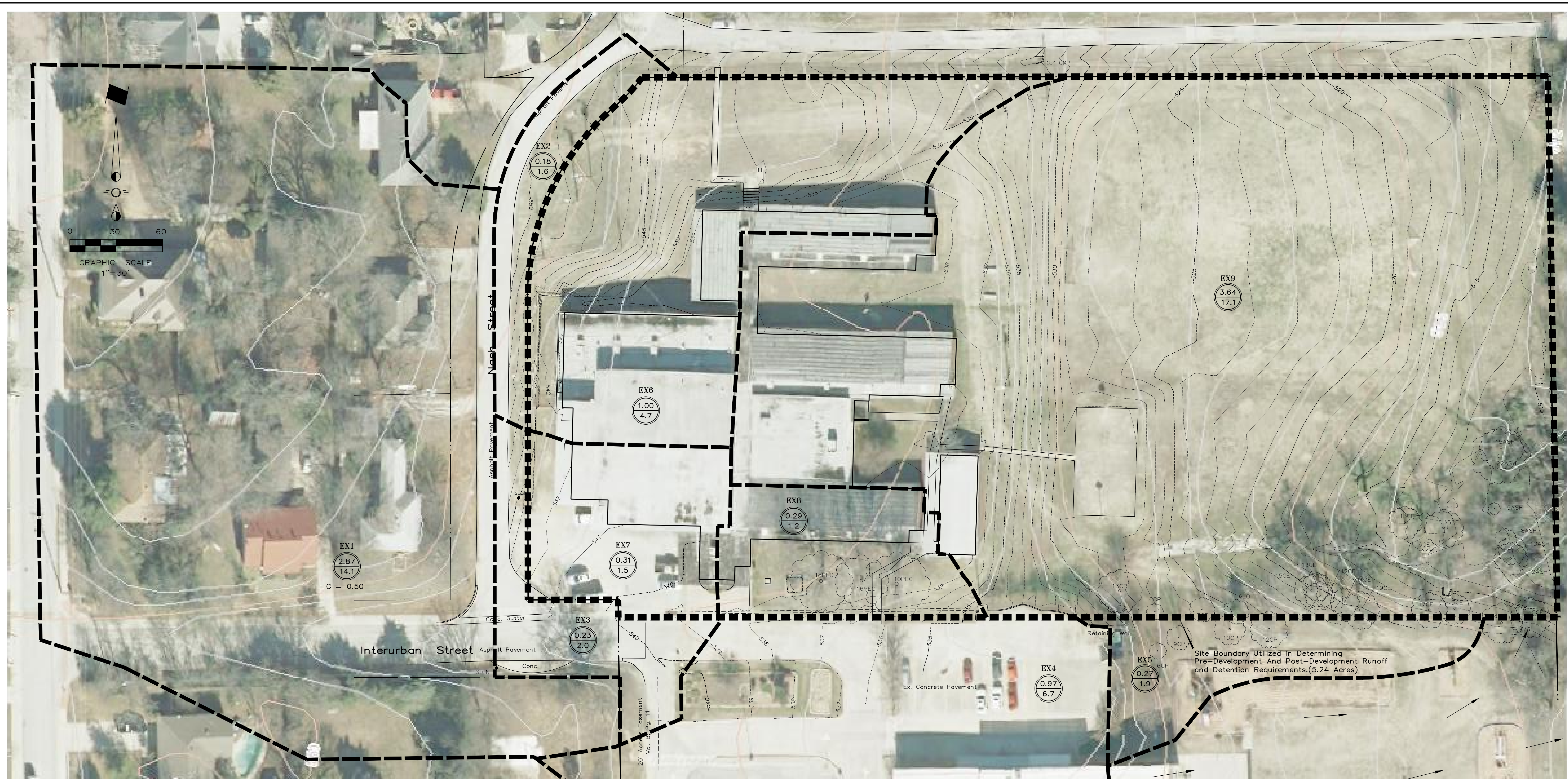


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 (972) 359-1833 Fax
 Texas Registration No. 579



DRAWING FILE:		DRAWING SCALE:		SHEET:	
SIGNED BY:	TECH REVIEW:	16001 GRAD.dwg	1"=30'	C2.00	
RLK	RLK	DRAWING DATE:	PROJECT NUMBER:		
DRAWN BY:	PEER REVIEW:	6-6-17	RLK: 16001		
RLK	RLK				

GRADING PLAN
 DOBBS ELEMENTARY SCHOOL
 ROCKWALL, TEXAS

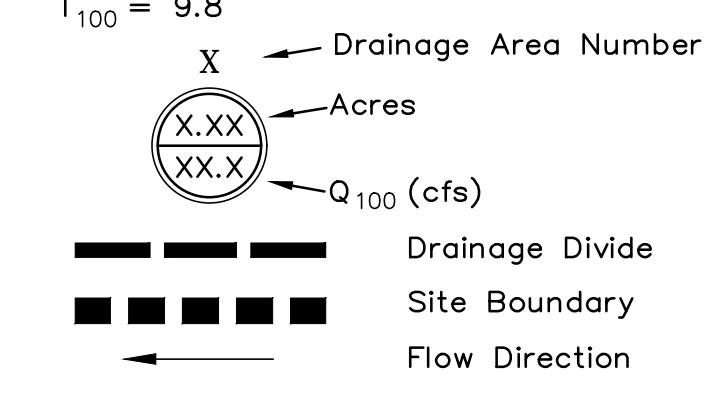


EXISTING DRAINAGE AREA CALCULATIONS						
DRAINAGE AREA NO.	DRAINAGE AREA (acres)	C	t _c (min)	I ₁₀₀ (in/hr)	Q ₁₀₀ (cfs)	DRAINS TO:
EX1	2.87	0.50	10	9.8	14.1	LINE "C"
EX2	0.18	0.70	10	9.8	0.7	LINE "C"
EX3	0.23	0.90	10	9.8	2.0	LINE "C"
EX4	0.97	0.70	10	9.8	6.7	LINE "C"
EX5	0.27	0.70	10	9.8	1.9	LINE "C"
EX6	1.00	0.48	10	9.8	4.7	LINE "C"
EX7	0.31	0.48	10	9.8	1.5	LINE "C"
EX8	0.29	0.48	10	9.8	1.2	LINE "C"
EX9	3.64	0.48	10	9.8	17.1	LINE "C"

DOBBS SCHOOL SITE EXISTING RUNOFF COEFFICIENT
 Site Area = 5.24 Acres
 Impervious Site Area (C=1.0) = 1.02 Acres
 (Impervious Site Area Includes Any Concrete Pavement, Drives, Walks, & Roofs)
 Pervious Site Area (C=0.35) = 4.22 Acres
 (Pervious Site Areas Includes Any Covered In Grass, Plantings, Bare Soil, & Unimproved Surfaces)
 Weighted Runoff Coefficient = $[(1.02)(1.0) + (4.22)(0.35)] / 5.24 = 0.48$

OVERALL DRAINAGE BASIN EXISTING RUNOFF COEFFICIENT
 Total Basin Area = 9.76 Acres
 Roadway Area = 0.41 Ac (EX2 & EX3)
 Roadway C = 0.90
 Residential Area = 2.87 Ac (EX1)
 Residential C = 0.50
 Offsite School Area = 1.24 Ac (EX4 & EX5)
 Offsite School C = 0.70
 Dobbs School Area = 5.24 Ac (EX6 to EX9)
 Dobbs School C = 0.48
 Overall Drainage Basin Existing Weighted Runoff Coefficient = $[(0.41)(0.90) + (2.87)(0.50) + (1.24)(0.70) + (5.24)(0.48)] / 9.76 = 0.53$
 C = 0.53

DRAINAGE CRITERIA
 Q = C I A
 C = 0.48 Onsite Weighted C (Unless Noted Otherwise)
 t_c = 10 min.
 I₁₀₀ = 9.8

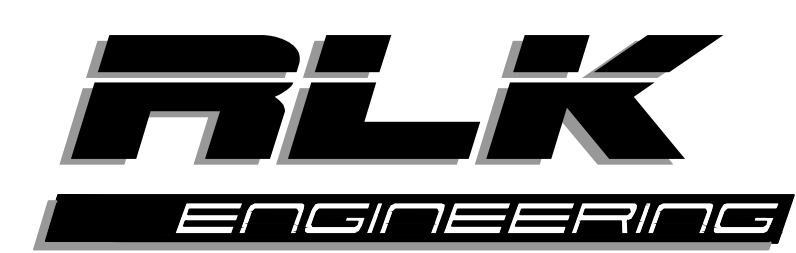


RECORD DRAWING

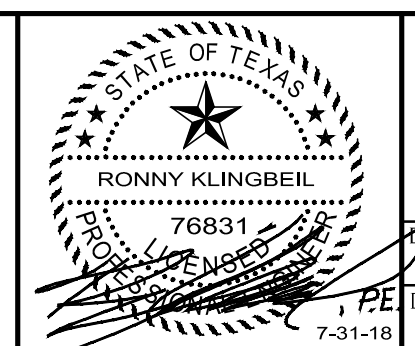
To the best of our knowledge, RLK Engineering, Inc. hereby states that this plan is as built. Information provided is based on surveying at the site and information provided by contractor.



MISC. INFORMATION	REVISION	DATE	DESCRIPTION
NOTE: Prior to beginning any construction or construction staking, it shall be the Contractor's responsibility to contact the civil engineer to insure that all parties are in possession of the most current set of construction documents.			



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 Texas Registration No. 579

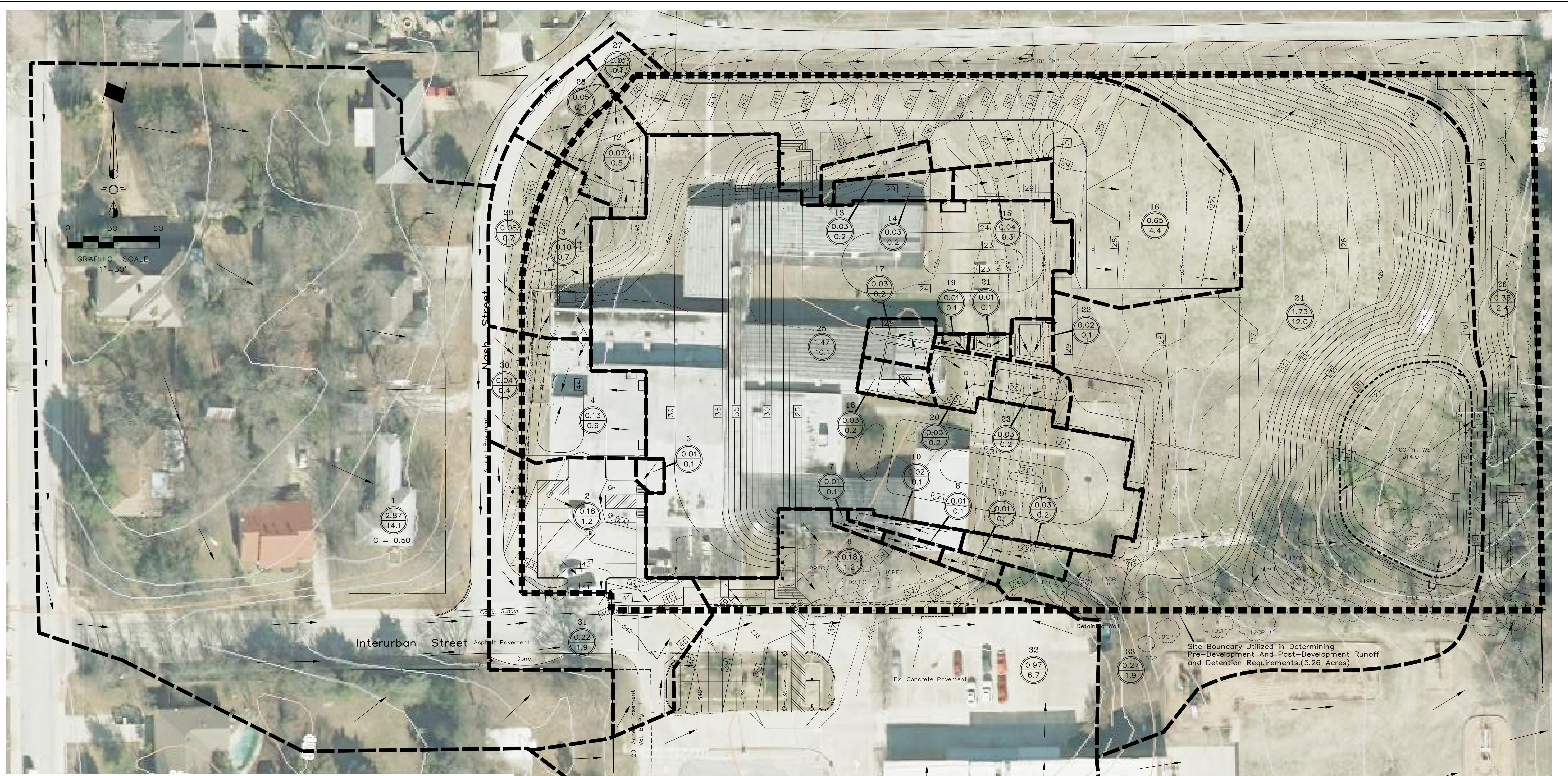


EXISTING DRAINAGE AREA MAP

DOBBS ELEMENTARY SCHOOL
 ROCKWALL, TEXAS

SIGNED BY: RLK Engineering	TECH REVIEW: RLK	DRAWING FILE: 16001 DAMAP EXISTING.dwg	DRAWING SCALE: 1"=30'	SHEET: C3.00
DRAWN BY: RLK Engineering	PEER REVIEW: RLK	DRAWING DATE: 6-6-17	PROJECT NUMBER: RLK: 16001	

Aug 09, 2018 - 11:09pm User: rick



DRAINAGE AREA CALCULATIONS						
DRAINAGE AREA NO.	DRAINAGE AREA (acres)	C	t _c (min)	I ₁₀₀ (in/hr)	Q ₁₀₀ (cfs)	DRAINS TO:
1	2.87	0.50	10	9.8	14.1	LINE "C"
2	0.18	0.70	10	9.8	1.2	LINE "C"
3	0.10	0.70	10	9.8	0.7	LINE "C"
4	0.13	0.70	10	9.8	0.9	LINE "C"
5	0.01	0.70	10	9.8	0.1	LINE "C"
6	0.18	0.70	10	9.8	1.2	LINE "C"
7	0.01	0.70	10	9.8	0.1	LINE "C"
8	0.01	0.70	10	9.8	0.1	LINE "C"
9	0.01	0.70	10	9.8	0.1	LINE "C"
10	0.02	0.70	10	9.8	0.1	LINE "C"
11	0.03	0.70	10	9.8	0.2	LINE "C"
12	0.07	0.70	10	9.8	0.5	LINE "D"
13	0.03	0.70	10	9.8	0.2	LINE "D"
14	0.03	0.70	10	9.8	0.2	LINE "D"
15	0.04	0.70	10	9.8	0.3	LINE "D"
16	0.65	0.70	10	9.8	4.4	LINE "B"
17	0.03	0.70	10	9.8	0.2	LINE "B"

DRAINAGE AREA CALCULATIONS						
DRAINAGE AREA NO.	DRAINAGE AREA (acres)	C	t _c (min)	I ₁₀₀ (in/hr)	Q ₁₀₀ (cfs)	DRAINS TO:
18	0.03	0.70	10	9.8	0.2	LINE "B"
19	0.01	0.70	10	9.8	0.1	LINE "B"
20	0.03	0.70	10	9.8	0.2	LINE "B"
21	0.01	0.70	10	9.8	0.1	LINE "B"
22	0.02	0.70	10	9.8	0.1	LINE "B"
23	0.03	0.70	10	9.8	0.2	LINE "B"
24	1.75	0.70	10	9.8	12.0	LINE "A"
25	1.47	0.70	10	9.8	10.1	LINE "B,C,D"
26	0.35	0.70	10	9.8	2.4	OFFSITE
27	0.01	0.90	10	9.8	0.1	LINE "D"
28	0.05	0.90	10	9.8	0.4	LINE "D"
29	0.08	0.90	10	9.8	0.7	LINE "C"
30	0.04	0.90	10	9.8	0.4	LINE "C"
31	0.22	0.90	10	9.8	1.9	LINE "C"
32	0.97	0.90	10	9.8	6.7	LINE "C"
33	0.27	0.7	10	9.8	1.9	LINE "A"

OVERALL DRAINAGE BASIN PROPOSED RUNOFF COEFFICIENT

Total Basin Area = 9.76 Acres
 Roadway Area = 0.41 Ac (27 To 31)
 Roadway C = 0.90
 Residential Area = 2.87 Ac (1)
 Residential C = 0.50
 Offsite School Area = 1.24 Ac (32 & 33)
 Offsite School C = 0.70
 Dobbs School Area = 5.24 Ac (2 to 26)
 Dobbs School C = 0.70

Overall Drainage Basin Proposed Weighted Runoff Coefficient =

$$= (0.41)(0.90) + (2.87)(0.50) + (1.24)(0.70) + (5.24)(0.70) = 0.65$$

 9.76
 C = 0.65

DRAINAGE CRITERIA

Q = C I A
 C = 0.70 Unless Noted Otherwise
 t_c = 10 min.
 I₁₀₀ = 9.8

X ← Drainage Area Number
 (X.XX) ← Acres
 (XX.X) ← Q₁₀₀ (cfs)

— Drainage Divide
 ■ Site Boundary
 → Flow Direction

RECORD DRAWING

To the best of our knowledge, RLK Engineering, Inc. hereby states that this plan is as built. Information provided is based on surveying at the site and information provided by contractor.

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PROPOSED DRAINAGE AREA MAP				
DOBBS ELEMENTARY SCHOOL ROCKWALL, TEXAS				
SIGNED BY: RLK Engineering	TECH REVIEW: RLK	DRAWING FILE: 16001 DAMAP PROPOSED.dwg	DRAWING SCALE: 1"=30'	SHEET: C3.01
DRAWN BY: RLK Engineering	PEER REVIEW: RLK	DRAWING DATE: 6-6-17	PROJECT NUMBER: RLK: 16001	

DETENTION POND CALCULATION SUMMARY – 100 YEAR

PROPOSED SITE CONDITIONS

Site Area = 9.76 Ac
 C = 0.65 (From Sheet C3.02)
 Tc = 10 min
 I₁₀₀ = 9.8 in/hr
 Q₁₀₀ = 62.2 cfs

EXISTING SITE CONDITIONS

Site Area = 9.76 Ac
 C = 0.53 (From Sheet C3.01)
 Tc = 10 min
 I₁₀₀ = 9.8 in/hr
 Q₁₀₀ = 50.7 cfs

UNDETAILED RELEASE

Area (DA#26) = 0.35 Ac
 C = 0.70
 Tc = 10 min
 I₁₀₀ = 9.8 in/hr
 Q₁₀₀ = 2.4 cfs

ALLOWABLE SITE RELEASE FROM POND

EXISTING CONDITIONS RELEASE
 – UNDETAINED RELEASE =
 = 50.7 – 2.4 = 48.3 cfs

TOTAL DETENTION VOLUME REQUIRED

V = 20,832 CF
 100 YR WSEL = 514.0'

CIPOLETTI WEIR CALCULATION

Using Flowmaster The Crest Length Can Be Determined.
 Q = 3.367bH^{3/2}
 Weir HW = 513.8 (100YR WSEL)
 Weir TW = 512.5 (Centroid Of Pipe)
 Crest Elev. = 511.1
 Q = 48.3 cfs
 Crest Length = b
 Solve for b
 b = 3.40'
 Crest Length = 3.40'

TOTAL DETENTION VOLUME PROVIDED

V = 20,832 CF @ 514.0'
 20,832 CF = 20,832 CF
 Vol Provided = Vol Required

MODIFIED RATIONAL METHOD DETENTION BASIN DESIGN

PROJECT: Dobbs Elementary School 100 YR
 February 14, 2017

Runoff Coefficient C = 0.65
 Drainage Area - A = 9.76 acres
 Time of Concentration - tc = 10 minutes
 Maximum Outflow Rate - Q = 48.3 cfs (50.7-2.4)

Duration (minutes)	Intensity (inches/hr)	Depth (inches)	Inflow Discharge Q-CIA	Inflow Volume Cu. Ft.	Outflow Duration (minutes)	Outflow Volume Cu. Ft.	Storage Volume Cu. Ft.
10	9.80	1.63	62.2	37,303	20	28,980	8,323
15	9.00	2.25	57.1	51,386	25	36,225	15,161
20	8.30	2.77	52.7	63,186	30	43,470	19,716
30	6.90	3.45	43.8	78,792	40	57,960	20,832
40	5.80	3.87	36.8	88,308	50	72,450	15,858
50	5.00	4.17	31.7	95,160	60	86,940	8,220
60	4.50	4.50	28.5	102,773	70	101,430	1,343
70	4.00	4.67	25.4	106,579	80	115,920	(9,341)
80	3.70	4.93	23.5	112,669	90	130,410	(17,741)
90	3.50	5.25	22.2	119,902	100	144,900	(24,998)
100	3.40	5.67	21.6	129,418	110	159,390	(29,972)
110	3.20	5.87	20.3	133,985	120	173,880	(39,895)

Required Storage Volume 20,832 cubic feet
 0.48 acre-feet

DETENTION POND CALCULATION SUMMARY – 25 YEAR

PROPOSED CONDITIONS

Site Area = 9.76 Ac
 C = 0.65 (From Sheet C3.02)
 Tc = 10 min
 I₂₅ = 8.3 in/hr
 Q₂₅ = 52.7 cfs

EXISTING CONDITIONS

Site Area = 9.76 Ac
 C = 0.53 (From Sheet C3.01)
 Tc = 10 min
 I₂₅ = 8.3 in/hr
 Q₂₅ = 42.9 cfs

UNDETAILED RELEASE

Area (DA#26) = 0.35 Ac
 C = 0.35
 Tc = 10 min
 I₂₅ = 8.3 in/hr
 Q₂₅ = 2.0 cfs

ALLOWABLE SITE RELEASE FROM POND

EXISTING CONDITIONS RELEASE
 – UNDETAINED RELEASE =
 = 42.9 – 2.0 = 40.9 cfs

TOTAL DETENTION VOLUME REQUIRED

V = 13,726 CF
 25 YR WSEL = 513.30'

CIPOLETTI WEIR CALCULATION

Using The Crest Length Determined For The 100 YR Event & Flowmaster, The Headwater/WSEL Can Be Determined.
 Q = 3.367bH^{3/2}
 Weir TW = 512.50 (Centroid Of Pipe)
 Crest Elev. = 511.1
 Crest Width = b = 3.40'
 Q = 40.9 cfs
 Solve for H
 H = 2.74'
 Weir HW = 511.0 + H = 513.75'

TOTAL DETENTION VOLUME PROVIDED

V = 18,362 CF @ 513.75'
 18,362 CF > 13,726 CF
 Vol Provided > Vol Required

MODIFIED RATIONAL METHOD DETENTION BASIN DESIGN

PROJECT: Dobbs Elementary School 25 YR
 February 14, 2017

Runoff Coefficient C = 0.65
 Drainage Area - A = 9.76 acres
 Time of Concentration - tc = 10 minutes
 Maximum Outflow Rate - Q = 40.9 cfs (42.9-2.0)

Duration (minutes)	Intensity (inches/hr)	Depth (inches)	Inflow Discharge Q-CIA	Inflow Volume Cu. Ft.	Outflow Duration (minutes)	Outflow Volume Cu. Ft.	Storage Volume Cu. Ft.
10	8.30	1.38	52.7	31,593	20	24,540	7,053
15	7.50	1.88	47.6	42,822	25	30,675	12,147
20	6.60	2.20	41.9	50,244	30	36,810	13,434
30	5.50	2.75	34.9	62,806	40	49,080	13,726
40	4.60	3.07	29.2	70,038	50	61,350	8,688
50	4.00	3.33	25.4	76,128	60	73,620	2,508
60	3.50	3.50	22.2	79,934	70	85,890	(5,956)
70	3.30	3.85	20.9	87,928	80	98,160	(10,232)
80	3.10	4.13	19.7	94,399	90	110,430	(16,031)
90	2.90	4.35	18.4	99,347	100	122,700	(23,353)
100	2.70	4.50	17.1	102,773	110	134,970	(32,197)
110	2.50	4.58	15.9	104,676	120	147,240	(42,564)

Required Storage Volume 13,726 cubic feet
 0.32 acre-feet

DETENTION POND CALCULATION SUMMARY – 50 YEAR

PROPOSED CONDITIONS

Site Area = 9.76 Ac
 C = 0.65 (From Sheet C3.02)
 Tc = 10 min
 I₅₀ = 9.0 in/hr
 Q₅₀ = 57.1 cfs

EXISTING CONDITIONS

Site Area = 9.76 Ac
 C = 0.53 (From Sheet C3.01)
 Tc = 10 min
 I₅₀ = 9.0 in/hr
 Q₅₀ = 46.6 cfs

UNDETAILED RELEASE

Area (DA#26) = 0.35 Ac
 C = 0.70
 Tc = 10 min
 I₅₀ = 9.0 in/hr
 Q₅₀ = 2.2 cfs

ALLOWABLE SITE RELEASE FROM POND

EXISTING CONDITIONS RELEASE
 – UNDETAINED RELEASE =
 = 46.6 – 2.2 = 44.4 cfs

TOTAL DETENTION VOLUME REQUIRED

V = 17,136 CF
 50 YR WSEL = 513.60'

CIPOLETTI WEIR CALCULATION

Using The Crest Length Determined For The 100 YR Event & Flowmaster, The Headwater/WSEL Can Be Determined.
 Q = 3.367bH^{3/2}
 Weir TW = 512.50 (Centroid Of Pipe)
 Crest Elev. = 511.1
 Crest Width = b = 3.40'
 Q = 44.4 cfs
 Solve for H
 H = 2.87'
 Weir HW = 511.0 + H = 513.87'

TOTAL DETENTION VOLUME PROVIDED

V = 19,597 CF @ 513.87'
 19,597 CF > 17,136 CF
 Vol Provided > Vol Required

MODIFIED RATIONAL METHOD DETENTION BASIN DESIGN

PROJECT: Dobbs Elementary School 50 YR
 February 14, 2017

Runoff Coefficient C = 0.65
 Drainage Area - A = 9.76 acres
 Time of Concentration - tc = 10 minutes
 Maximum Outflow Rate - Q = 44.4 cfs (46.6-2.2)

Duration (minutes)	Intensity (inches/hr)	Depth (inches)	Inflow Discharge Q-CIA	Inflow Volume Cu. Ft.	Outflow Duration (minutes)	Outflow Volume Cu. Ft.	Storage Volume Cu. Ft.
10	9.00	1.50	57.1	34,258	20	26,640	7,618
15	8.10	2.03	51.4	46,248	25	33,300	12,948
20	7.50	2.50	47.6	57,096	30	39,960	17,136
30	6.10	3.05	38.7	69,657	40	53,280	16,377
40	5.20	3.47	33.0	79,173	50	66,600	12,573
50	4.50	3.75	28.5	85,644	60	79,920	5,724
60	3.90	3.90	24.7	89,070	70	93,240	(4,170)
70	3.70	4.32	23.5	98,586	80	106,560	(7,974)
80	3.50	4.67	22.2	106,579	90	119,880	(13,301)
90	3.30	4.95	20.9	113,050	100	133,200	(20,150)
100	3.00	5.00	19.0	114,192	110	146,520	(32,328)
110	2.90	5.32	18.4	121,424	120	159,840	(38,416)

Required Storage Volume 17,136 cubic feet
 0.39 acre-feet

DETENTION POND CALCULATION SUMMARY – 5 YEAR

PROPOSED CONDITIONS

Site Area = 9.76 Ac
 C = 0.65 (From Sheet C3.02)
 Tc = 10 min
 I₅ = 6.1 in/hr
 Q₅ = 38.7 cfs

EXISTING CONDITIONS

Site Area = 9.76 Ac
 C = 0.53 (From Sheet C3.01)
 Tc = 10 min
 I₅ = 6.1 in/hr
 Q₅ = 31.6 cfs

UNDETAILED RELEASE

Area (DA#26) = 0.35 Ac
 C = 0.70
 Tc = 10 min
 I₅ = 6.1 in/hr
 Q₅ = 1.5 cfs

ALLOWABLE SITE RELEASE FROM POND

EXISTING CONDITIONS RELEASE
 – UNDETAINED RELEASE =
 = 31.6 – 1.5 = 30.1 cfs

TOTAL DETENTION VOLUME REQUIRED

V = 10,699 CF
 5 YR WSEL = 512.9'

CIPOLETTI WEIR CALCULATION

Using The Crest Length Determined For The 100 YR Event & Flowmaster, The Headwater/WSEL Can Be Determined.
 Q = 3.367bH^{3/2}
 Weir TW = 512.50 (Centroid Of Pipe)
 Crest Elev. = 511.1
 Crest Width = b = 3.40'
 Q = 30.1 cfs
 Solve for H
 H = 2.35'
 Weir HW = 511.0 + H = 513.36'

TOTAL DETENTION VOLUME PROVIDED

V = 14,658 CF @ 513.36'
 14,658 CF > 10,699 CF
 Vol Provided > Vol Required

MODIFIED RATIONAL METHOD DETENTION BASIN DESIGN

PROJECT: Dobbs Elementary School 5 YR
 February 14, 2017

Runoff Coefficient C = 0.65
 Drainage Area - A = 9.76 acres
 Time of Concentration - tc = 10 minutes
 Maximum Outflow Rate - Q = 30.1 cfs (31.6-1.5)

Duration (minutes)	Intensity (inches/hr)	Depth (inches)	Inflow Discharge Q-CIA	Inflow Volume Cu. Ft.	Outflow Duration (minutes)	Outflow Volume Cu. Ft.	Storage Volume Cu. Ft.
10	6.10	1.02	38.7	23,219	20	18,060	5,159
15	5.50	1.38	34.9	31,403	25	22,575	8,828
20	4.90	1.63	31.1	37,303	30	27,090	10,213
30	4.10	2.05	26.0	46,819	40	36,120	10,699
40	3.40	2.27	21.6	51,767	50	45,150	6,617
50	2.80	2.33	17.8	53,290	60	54,180	(890)
60	2.60	2.60	16.5	59,380	70	63,210	(3,830)
70	2.40	2.80	15.2	63,948	80	72,240	(8,292)
80	2.30	3.07	14.6	70,038	90	81,270	(11,232)
90	2.10	3.15	13.3	71,941	100	90,300	(18,359)
100	1.90	3.17	12.1	72,322	110	99,330	(27,008)
110	1.80	3.30	11.4	75,367	120	108,360	(32,993)

Required Storage Volume 10,699 cubic feet
 0.25 acre-feet

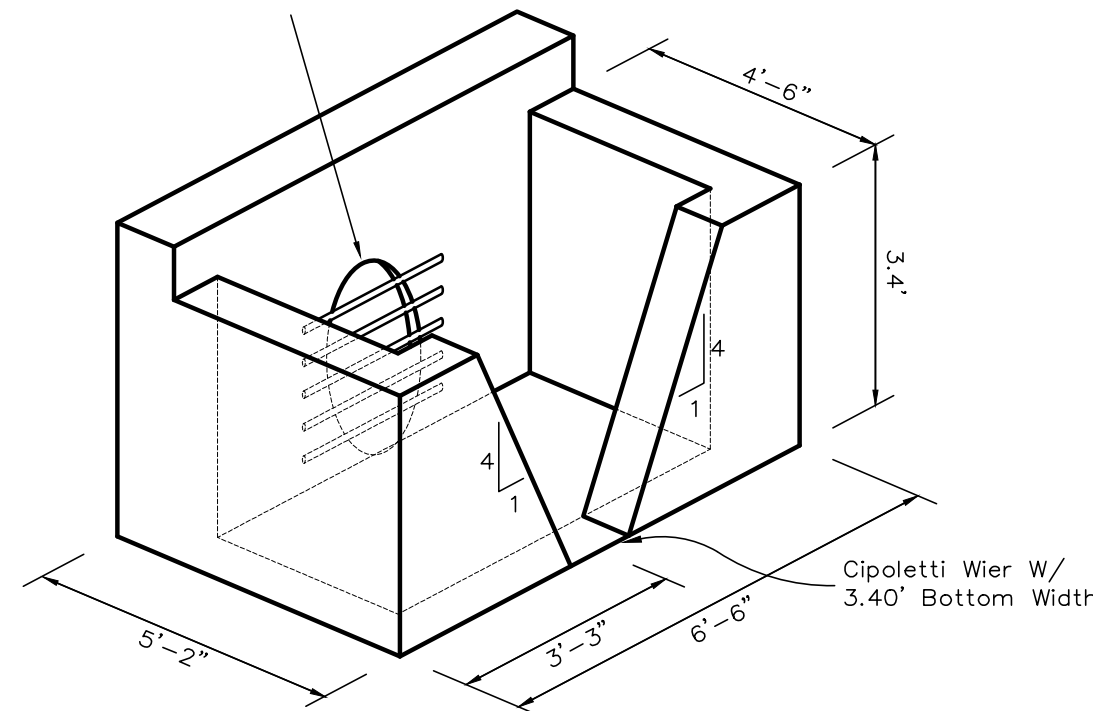
Pond Volume Chart

Pond Elevation	Accumulated Volume (cubic feet)
511	0
512	3,303
513	11,333
513.36	14,658
513.75	18,362
513.87	19,597
514	20,832
515	31,854

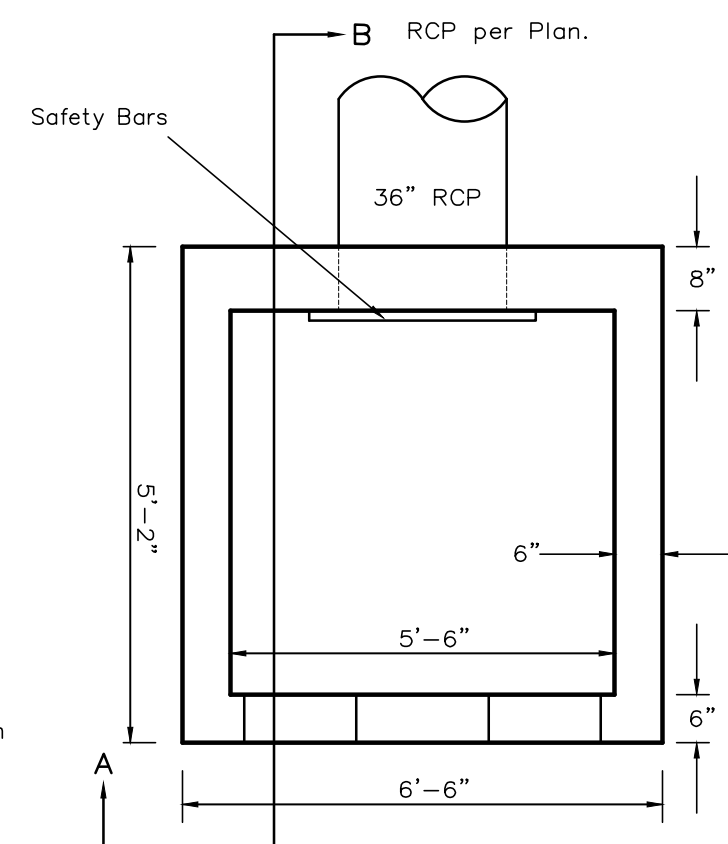
Release Chart

Storm Event	Actual Flow Out Of Pond Q _{ACTUAL}	Allowable Site Release Out Of Pond Q _{ALLOWABLE}
Q ₁₀₀	48.3 cfs	48.3 cfs
Q ₅₀	44.4 cfs	44.4 cfs
Q ₂₅	40.9 cfs	40.9 cfs
Q ₅	30.1 cfs	30.1 cfs

1" Dia. Galvanized Steel Safety Bars Typ. Spaced At 8" Max. Centers Across Opening. Install At Locations Indicated.

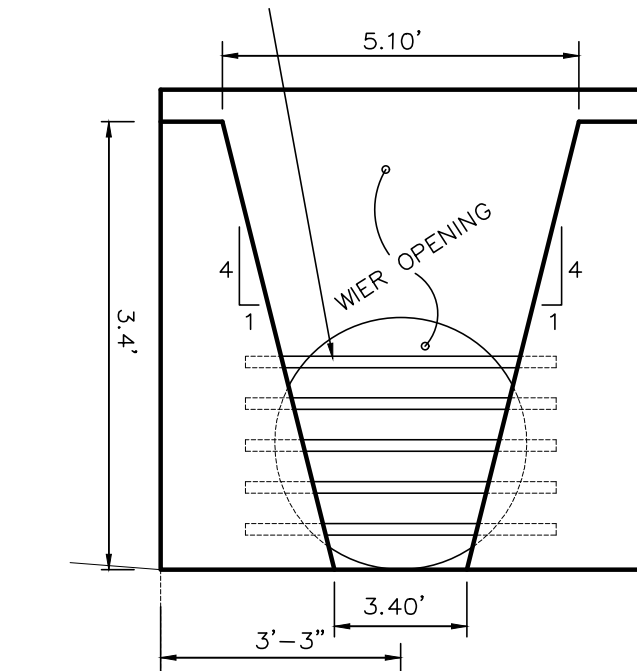


ISOMETRIC METRIC VIEW



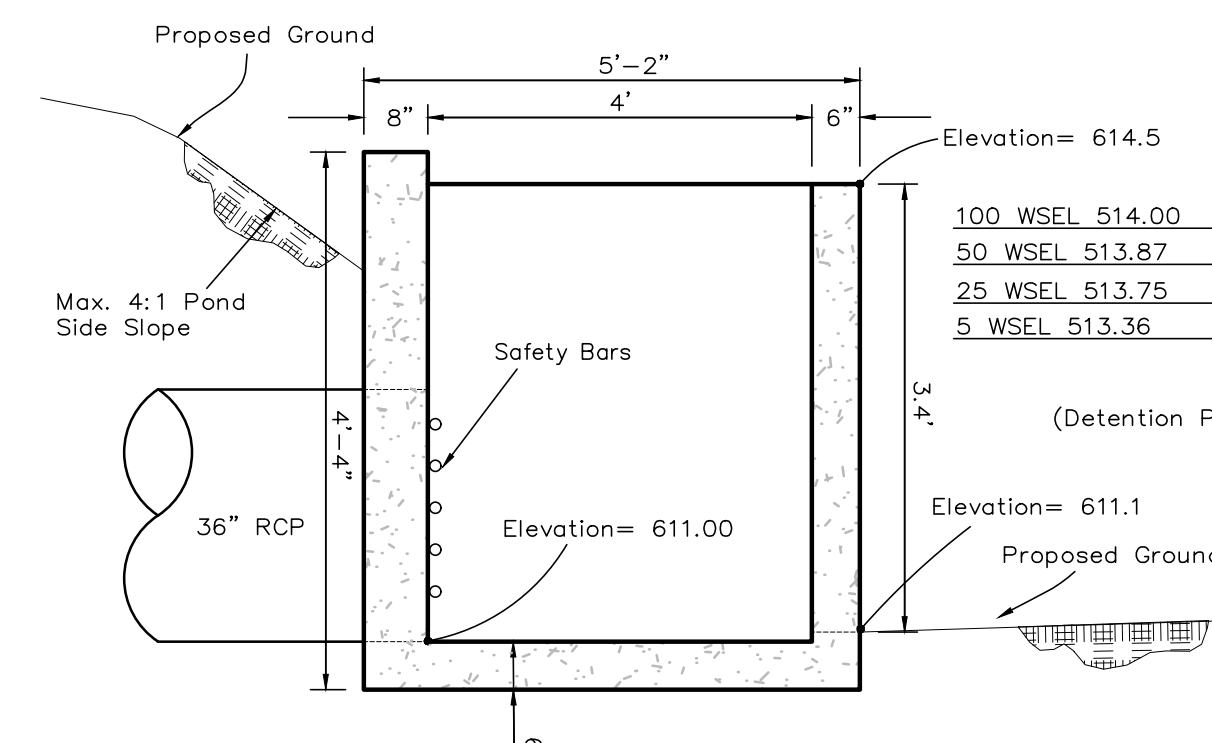
PLAN VIEW

1" Dia. Galvanized Steel Safety Bars Typ. Spaced At 8" Max. Centers Across Opening. Install At Locations Indicated.



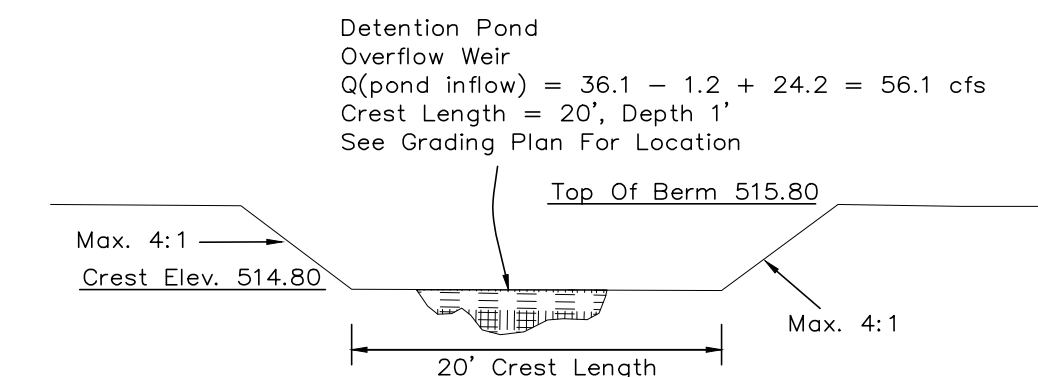
SECTION A-A

DETENTION POND OUTFALL STRUCTURE N.T.S.



SECTION B-B

Note: Concrete Drainage Structures Shall Have A Compressive Strength Of 4200psi. Refer To Manufacturer For Steel Reinforcement.



DETENTION POND EMERGENCY OVERFLOW N.T.S.

RECORD DRAWING

To the best of our knowledge, RLK Engineering, Inc. hereby states that this plan is as built. Information provided is based on surveying at the site and information provided by contractor.



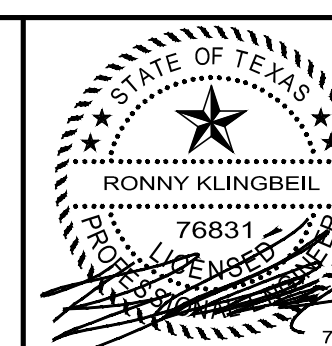
MISC. INFORMATION

REVISION DATE DESCRIPTION

NOTE:
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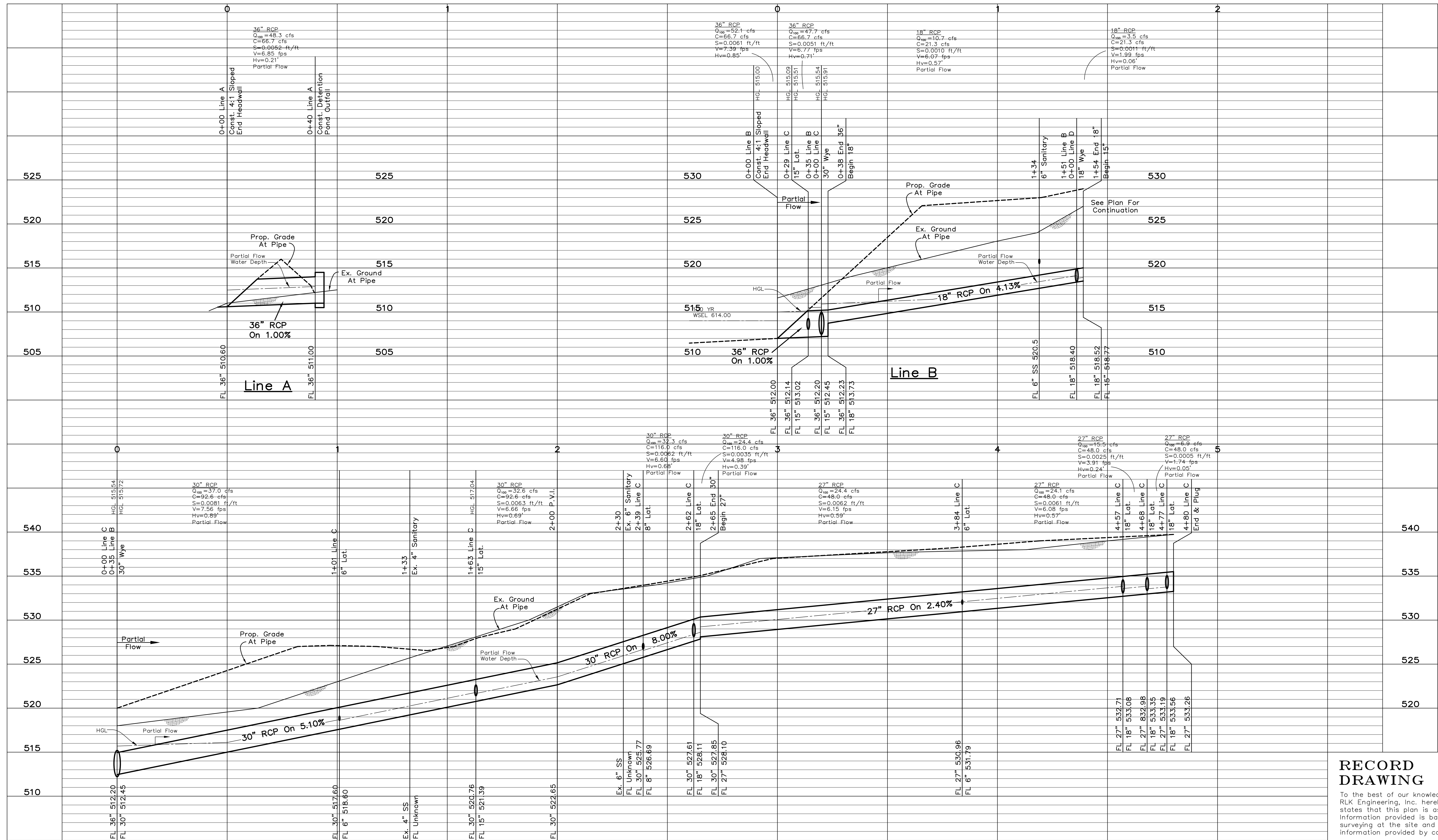
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 Texas Registration No. 579



DETENTION CALCULATIONS

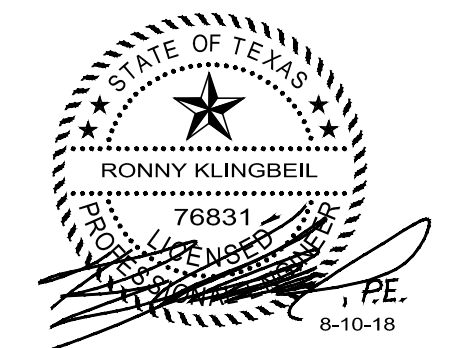
DOBBS ELEMENTARY SCHOOL
 ROCKWALL, TEXAS

SIGNED BY: RLK Engineering	TECH REVIEW: RLK	DRAWING FILE: 16001 DETENTION CALCS.dwg	DRAWING SCALE: NA	SHEET: C3.02
DRAWN BY: RLK Engineering	PEER REVIEW: RLK	DRAWING DATE: 6-6-17	PROJECT NUMBER: RLK: 16001	



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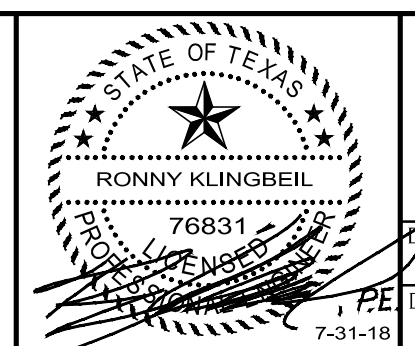


NOTE:
Prior to beginning any construction or construction staking, it shall be the Contractor's responsibility to contact the civil engineer to insure that all parties are in possession of the most current set of construction documents.

REVISION	DATE	DESCRIPTION



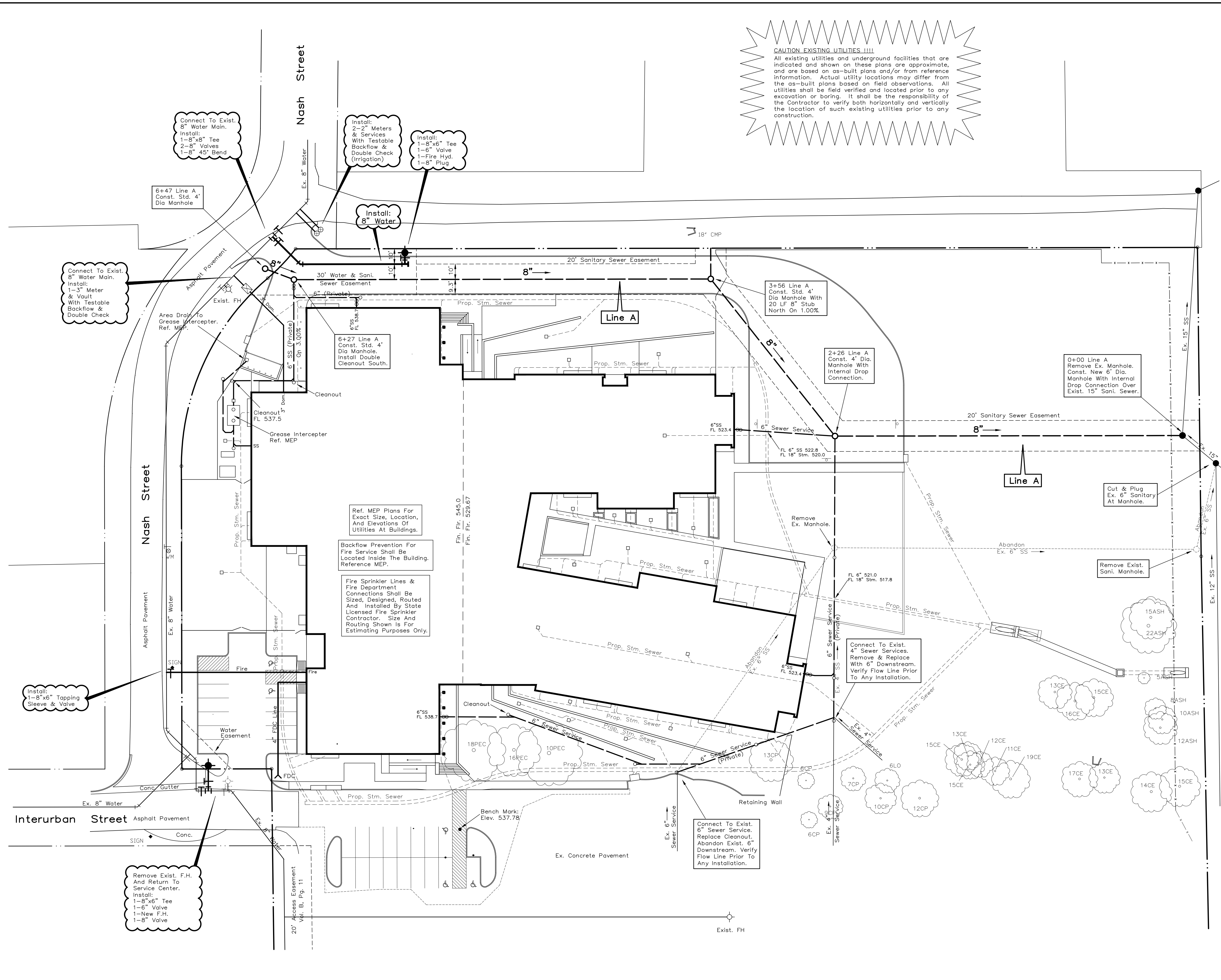
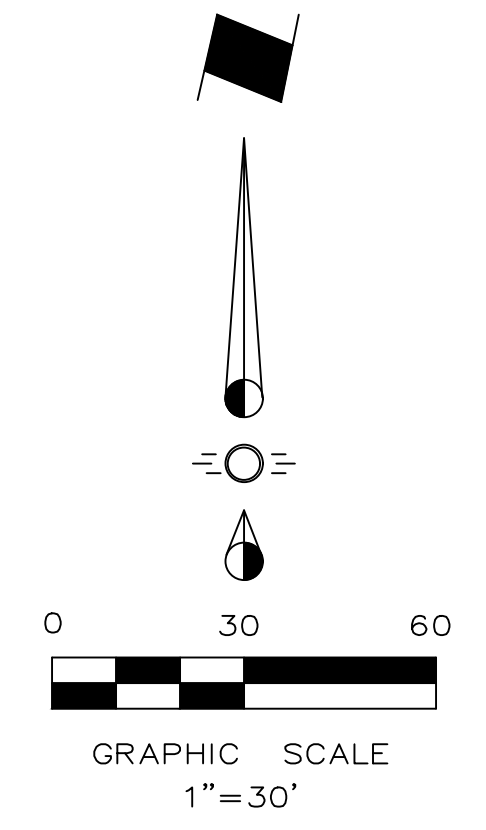
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STORM SEWER PROFILES
DOBBS ELEMENTARY SCHOOL
ROCKWALL, TEXAS

SIGNED BY: RLK Engineering	TECH REVIEW: RLK	DRAWING FILE: 16001 STMPROF.dwg	DRAWING SCALE: H: 1"=20' V: 1"=5'	SHEET: C3.04
DRAWN BY: RLK Engineering	PEER REVIEW: RLK	DRAWING DATE: 6-6-17	PROJECT NUMBER: RLK: 16001	

CAUTION EXISTING UTILITIES!!!!
 All existing utilities and underground facilities that are indicated and shown on these plans are approximate, and are based on as-built plans and/or from reference information. Actual utility locations may differ from the as-built plans based on field observations. All utilities shall be field verified and located prior to any excavation or boring. It shall be the responsibility of the Contractor to verify both horizontally and vertically the location of such existing utilities prior to any construction.



WATER & SEWER NOTES:

- All materials and construction shall be in accordance with the City of Rockwall Standards of Design and Construction, Standard Specifications for Construction, and Standard Specifications for Public Works Construction prepared by North Central Texas Council of Governments (4th Revision).
- Existing utilities are shown schematically and are for the contractor's guidance only. The location and/or elevation of existing utilities as shown on these plans are based on records of the various utility companies, and, where possible, measurements taken in the field. The contractor must call the appropriate utility company at least 48 hours prior to any excavation to request exact field location of utilities.
- The contractor shall be responsible for protecting all existing improvements in the construction of this project. The contractor is responsible for repairs of damage to any existing improvements during construction. Repairs shall be equal to or better than condition prior to construction.
- All sewer lines shall be PVC SDR-35, unless noted otherwise.
- All sewer lines shall be pressure rated within 9' of water lines and pipe joints shall be centered at water line crossings per TCEQ Standards.
- All manhole rim grades must match finished grade in paved areas. Manholes constructed in landscape areas must have a final rim grade six inches (6") above final grade.
- All water mains shall be AWWA C900 PVC, DR 14.
- Contractor shall be responsible for maintaining trench safety requirements in accordance with the latest standards of O.S.H.A. or any other agency having jurisdiction for excavation and trenching procedures. Contractor shall provide and implement a trench safety plan complying with O.S.H.A.
- All 8" or smaller water mains shall have a minimum cover of 4' above top of pipe.
- The minimum horizontal separation between the closest two points of the water and sewer line is 10 feet (10'). The minimum vertical separation between the closest two points of the water and sewer line is 18 inches.
- Thrust blocks shall be provided at all bends, tees, and fire hydrants.
- Dimensions shown are to centerline of pipe or fitting.
- No public utility shall be located nearer than 5' from any tree.
- Fire Service sizes, including detector checks, vaults, etc. are for bidding purposes only. Exact sizes shall be determined by licensed fire sprinkler designer.
- Contractor shall include blue EMS disks on the water line at every change in direction, valve, fire hydrant, and service tie to the main.
- All manholes to be Raven Lined line or approved equal.
- Contractor shall install green EMS disks on the public sanitary sewer line at every change in direction, manhole, service connection, and cleanout.

RECORD DRAWING

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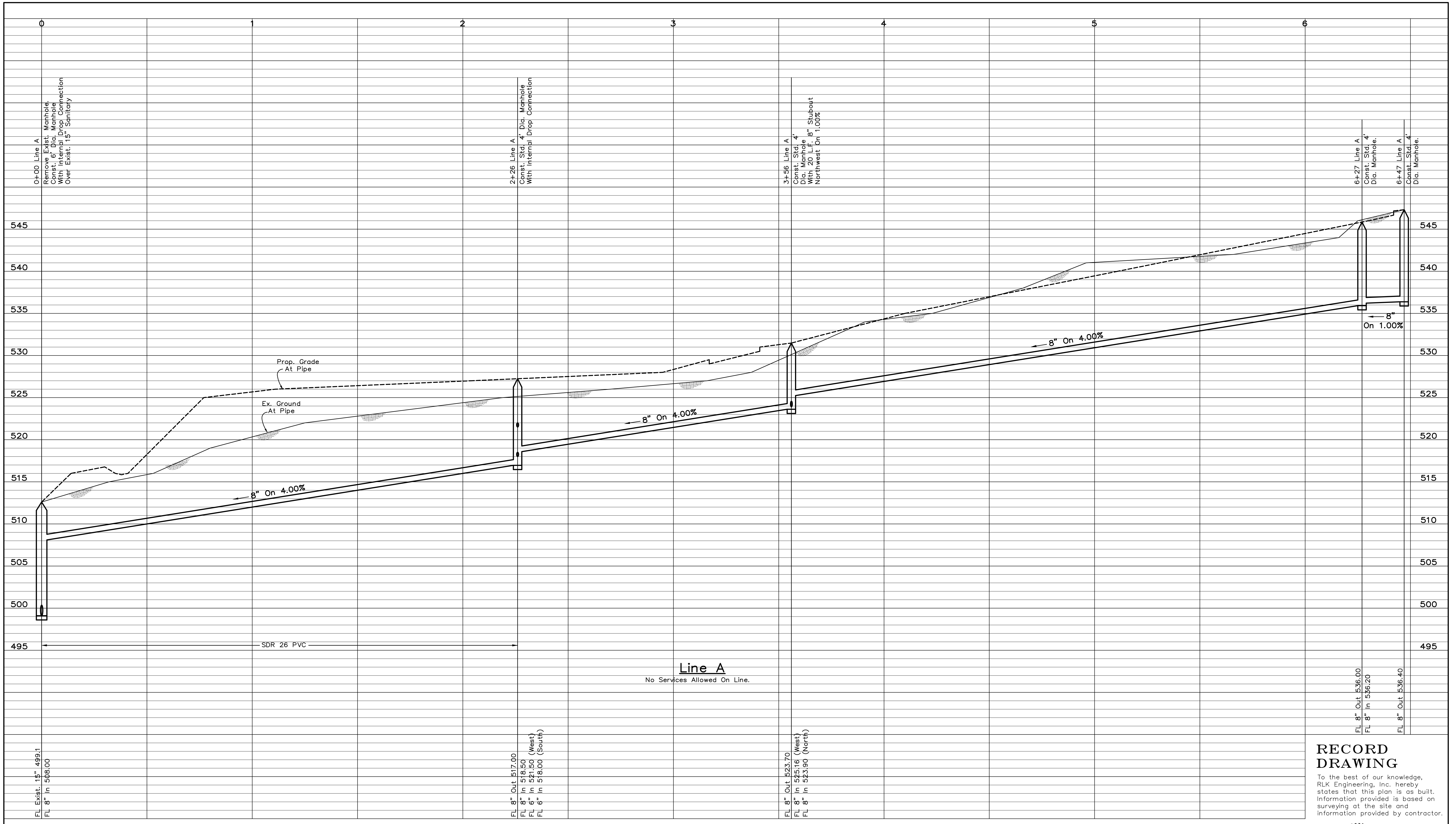


Aug 09, 2018 - 11:23pm User: rick

MISC. INFORMATION	REVISION	DATE	DESCRIPTION
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WATER & SEWER PLAN		DOBBS ELEMENTARY SCHOOL		ROCKWALL, TEXAS	
SIGNED BY: RLK Engineering	TECH REVIEW: RLK	DRAWING FILE: 16001 WS.dwg	DRAWING SCALE: 1"=30'	SHEET:	C4.00
DRAWN BY: RLK Engineering	PEER REVIEW: RLK	DRAWING DATE: 6-6-17	PROJECT NUMBER: RLK: 16001		



FL 15" In 499.1
FL 8" In 508.00

FL 8" Out 517.00
FL 8" In 518.50
FL 6" In 521.50 (West)
FL 6" In 518.00 (South)

FL 8" Out 523.70
FL 8" In 525.16 (West)
FL 8" In 523.90 (North)

FL 8" Out 536.00
FL 8" In 536.20
FL 8" Out 536.40

Line A
No Services Allowed On Line.

SDR 26 PVC

Prop. Grade At Pipe
Ex. Ground At Pipe

0+00 Line A
Remove Exist. Manhole,
Const. 6" Dia. Manhole
With Internal Drop Connection
Over Exist. 15" Sanitary

2+26 Line A
Const. Std. 4" Dia. Manhole
With Internal Drop Connection

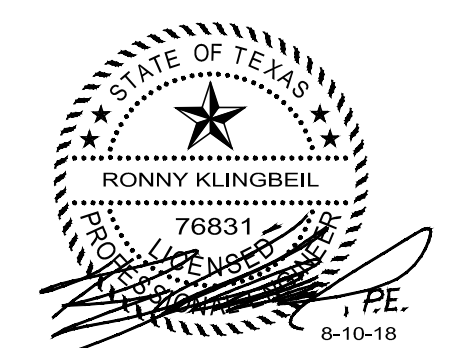
3+56 Line A
Const. Std. 4"
Dia. Manhole
With 20 L.F. 8" Stubout
Northwest On 1.00%

6+27 Line A
Const. Std. 4"
Dia. Manhole.

6+47 Line A
Const. Std. 4"
Dia. Manhole.

RECORD DRAWING

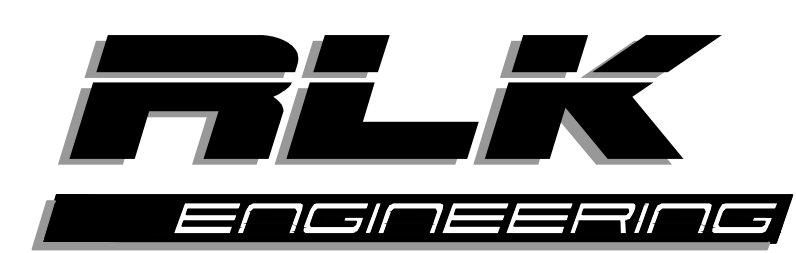
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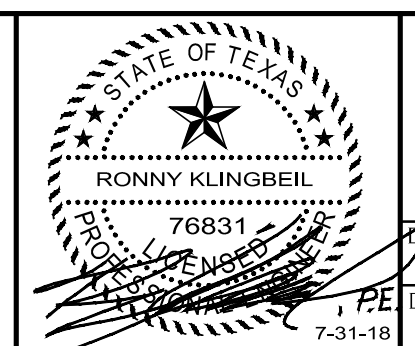
MISC. INFORMATION

REVISION	DATE	DESCRIPTION

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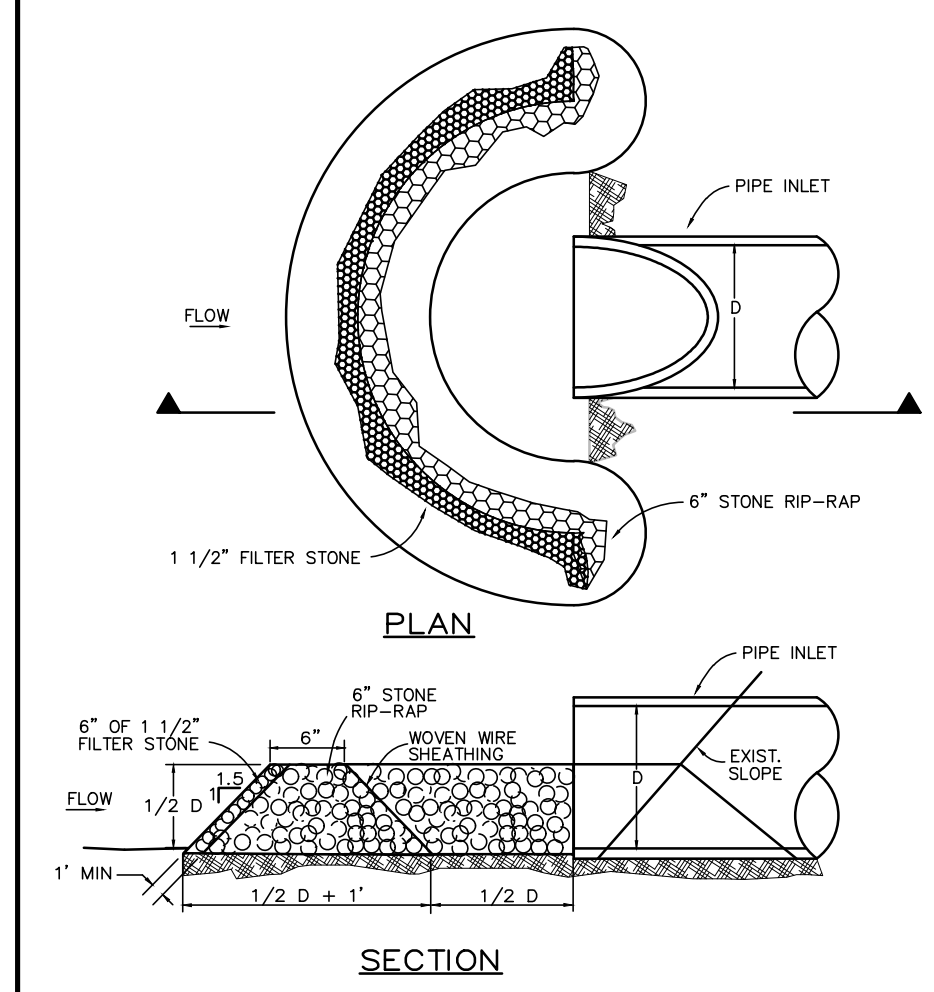


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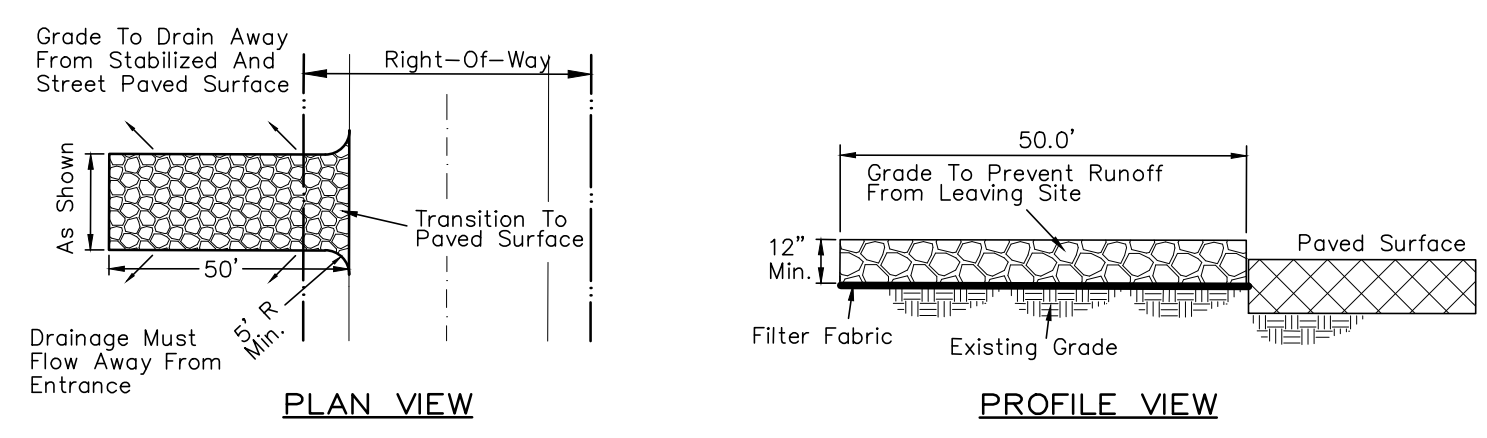


SANITARY SEWER PROFILES
DOBBS ELEMENTARY SCHOOL
ROCKWALL, TEXAS

SIGNED BY: RLK Engineering	TECH REVIEW: RLK	DRAWING FILE: 16001 SSPROF.dwg	DRAWING SCALE: H 1"=20' V 1"=5'	SHEET: C4.01
DRAWN BY: RLK Engineering	PEER REVIEW: RLK	DRAWING DATE: 6-6-17	PROJECT NUMBER: RLK 16001	

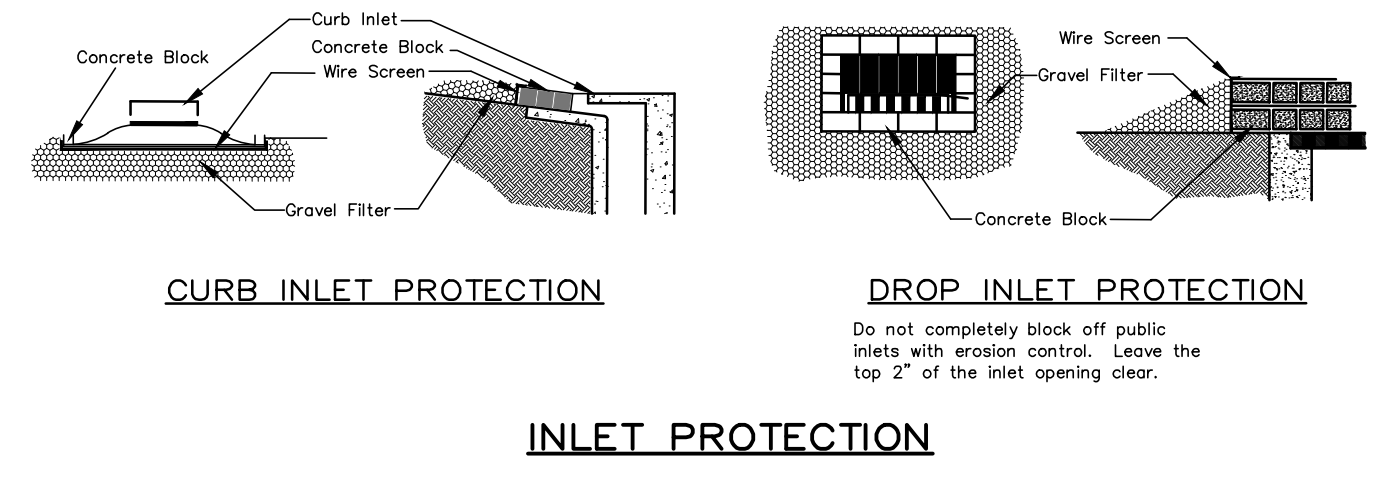


RIP-RAP PIPE INLET PROTECTION
N.T.S.

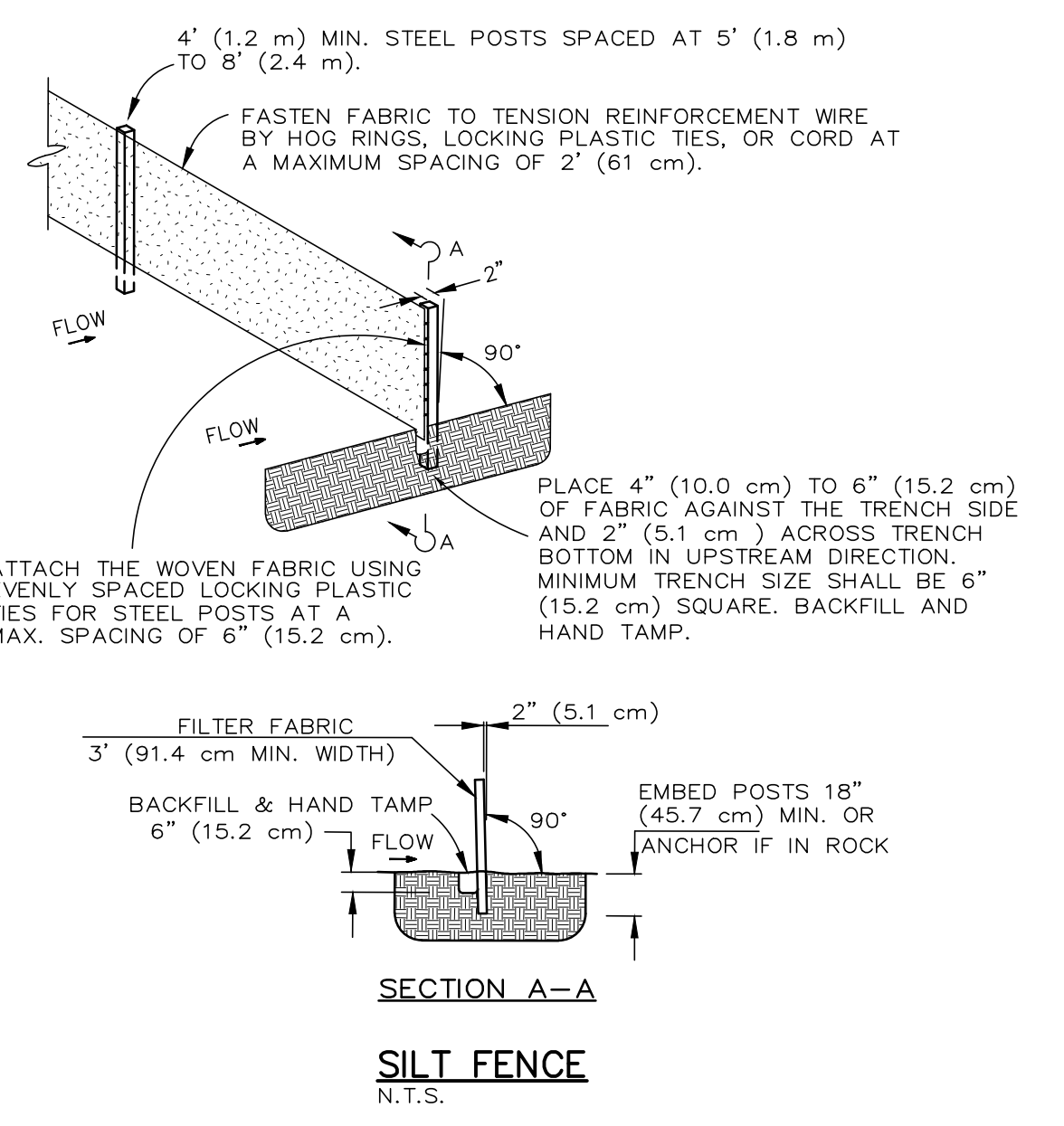
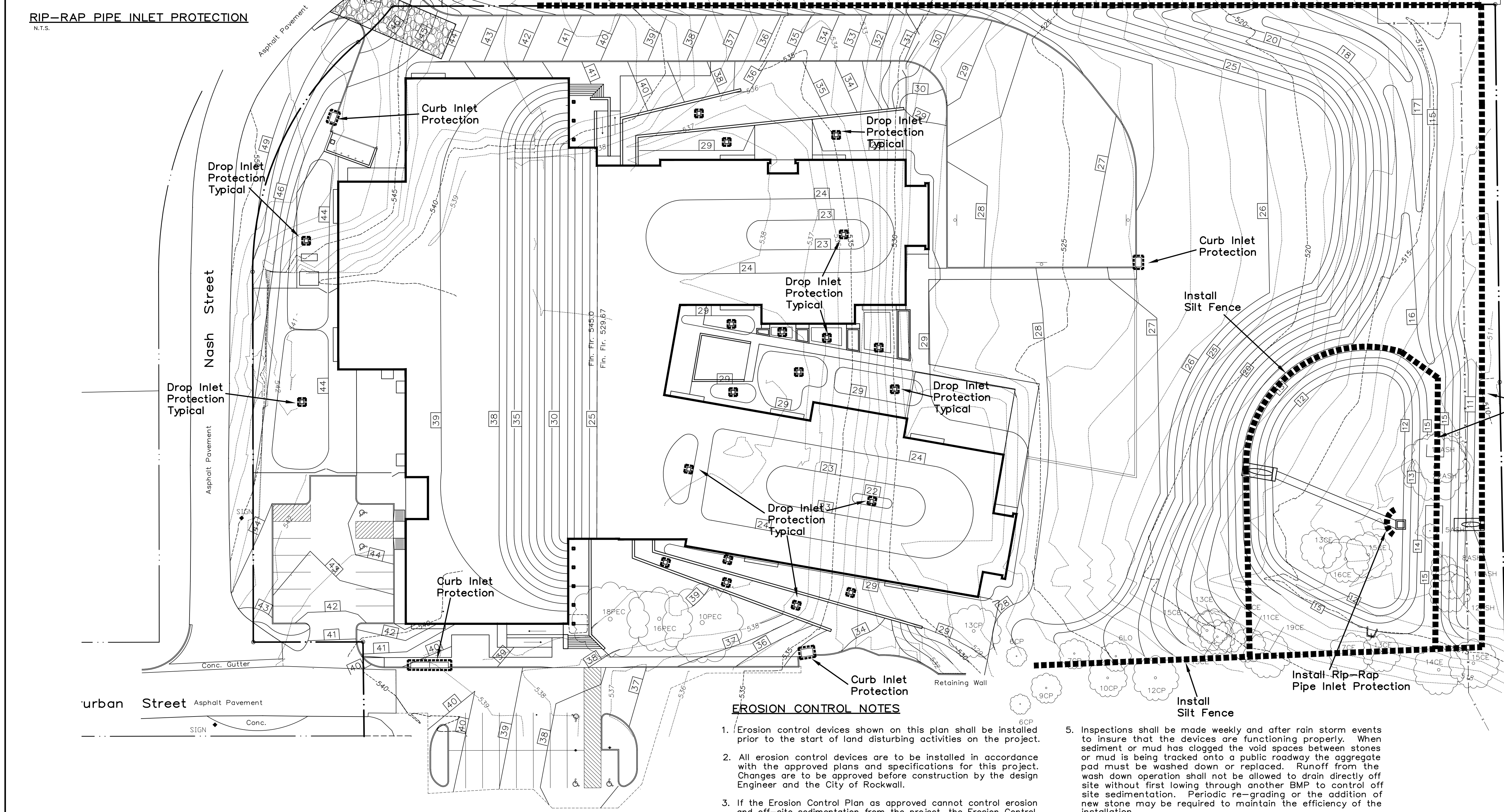
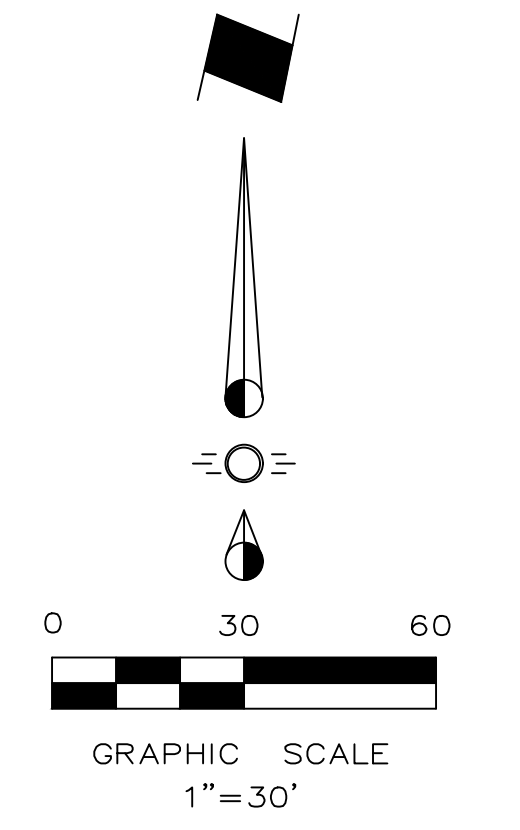


STABILIZED CONSTRUCTION ENTRANCE
Actual location of stabilized construction entrance shall be determined by Contractor at time of construction.

- NOTES**
- Stone shall be 4 to 6 inch diameter crushed rock. No crushed concrete allowed.
 - When necessary, vehicles shall be cleaned to remove sediment prior to entrance onto a public roadway. When washing is required, it shall be done on an area stabilized with crushed stone, with drainage flowing away from both the street and the stabilized entrance. All sediment shall be prevented from entering any storm drain, ditch, or watercourse using approved methods.
 - The entrance shall be maintained in a condition which will prevent tracking or flowing of sediment onto paved surfaces. This may require periodic top dressing with additional stone as conditions demand. All sediment spilled, dropped, washed, or tracked onto paved surfaces must be removed immediately.
 - The entrance must be properly graded or incorporate a drainage swale to prevent runoff from leaving the construction site.
 - Exact location of stabilized construction entrance shall be determined by contractor at time of construction.



INLET PROTECTION
BLOCK AND GRAVEL PROTECTION
Concrete blocks are to be placed on their sides in a single row around the perimeter of the inlet, with ends abutting. Opening in the blocks should face outward, not upward. Wire mesh shall then be placed over the outside face of the blocks covering the holes. Filter stone shall then be piled against the wire mesh to the top of the blocks with the base of the stone being a minimum of 18 inches from the blocks. Periodically, when the stone filter becomes clogged, the stone must be removed and cleaned in a proper manner or replaced with new stone and piled back against the wire mesh.



- SILT FENCE**
N.T.S.
- 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.
 - The toe of the silt fence shall be trenched in with a spade or mechanical trencher, so that the downslope face of the trench is flat and perpendicular to the line of flow. Where fence cannot be trenched (e.g. pavement), weight fabric flap with washed gravel on uphill side to prevent flow under fence.
 - The trench must be a minimum of 6" deep and 6" wide to allow for the silt fence fabric to be laid in the ground and backfilled with compacted material.
 - Silt fence should be securely fastened to each steel support post or to woven wire, which is then in turn attached to the steel fence post. There shall be a 6" double overlap, securely fastened where ends of fabric meet.
 - Inspection shall be made weekly or after each rainfall event. Repair or replacement shall be made promptly as needed.
 - Silt fence shall be removed when the site is completely stabilized so as not to block or impede storm flow or drainage.
 - Accumulated silt shall be removed when it reaches a depth of 6". The silt shall be disposed of in an approved site and in such a manner as to not contribute to additional siltation.
 - Wood posts are not allowed.
 - No paving (including slab) can be constructed until the detention system is in place and fully functioning per approved Site Plan, including either sodding or installing anchored, seeded Curlex on the sides and bottom of the detention pond.

- EROSION CONTROL NOTES**
- Erosion control devices shown on this plan shall be installed prior to the start of land disturbing activities on the project.
 - All erosion control devices are to be installed in accordance with the approved plans and specifications for this project. Changes are to be approved before construction by the design Engineer and the City of Rockwall.
 - If the Erosion Control Plan as approved cannot control erosion and off-site sedimentation from the project, the Erosion Control Plan will be required to be revised and/or additional erosion control devices will be required on site.
 - Off-site soil borrow and spoil areas are considered as part of the project site, and must also comply with the erosion control requirements for this project. This includes the installation of BMPs to control offsite sedimentation and the establishment of permanent ground cover on disturbed areas prior to final approval of the project.
 - Inspections shall be made weekly and after rain storm events to insure that the devices are functioning properly. When sediment or mud has clogged the void spaces between stones or mud is being tracked onto a public roadway the aggregate pad must be washed down or replaced. Runoff from the wash down operation shall not be allowed to drain directly off site without first flowing through another BMP to control off site sedimentation. Periodic re-grading or the addition of new stone may be required to maintain the efficiency of the installation.
 - Contractor shall be responsible for submittal of N.O.I., N.O.T. and any additional information required by the E.P.A. Contractor shall comply with all E.P.A. storm water pollution prevention requirements.
 - Contractor shall control mud accumulation on all streets surrounding the project. No mud accumulation will be allowed in public streets.

NOTE:
Owner and Contractor to be responsible for submitting N.O.I. (Notice Of Intent) prior to beginning any construction. Owner and Contractor also to submit N.O.T. (Notice Of Termination).

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EROSION CONTROL PLAN			
DOBBS ELEMENTARY SCHOOL ROCKWALL, TEXAS			
SIGNED BY: RLK Engineering	TECH REVIEW: RLK	DRAWING FILE: 16001 EC.dwg	DRAWING SCALE: 1"=30'
DRAWN BY: RLK Engineering	PEER REVIEW: RLK	DRAWING DATE: 6-6-17	PROJECT NUMBER: RLK: 16001
			SHEET: C5.00

SANDBLASTING WASTE MANAGEMENT

DESCRIPTION

The objective of the management program is to minimize the potential of storm water quality degradation from sandblasting activities at construction sites. The key issues in this program are prudent handling and storage of sandblast media, dust suppression, and proper collection and disposal of spent media. It is not the intent of this program to outline all of the worker safety issues pertinent to this practice. Safety issues should be addressed by construction safety programs as well as local, state, and federal regulations utilized at sites in which Sandblasting waste is present.

INSTALLATION/APPLICATION CRITERIA

Since the media consists of fine abrasive granules, it can be easily transported by running water. Sandblasting activities typically create a significant dust problem which must be contained and collected to prevent off-site migration problem which must be contained and collected to prevent off-site migration or fines.

Operational Procedures

Use only inert, non-degradable sandblast media.
Use appropriate equipment for the job, do not over-blast.
Wherever possible, blast in a downward direction.
Install a wind sock or other wind direction instrument.
Cease blasting activities in high winds or if wind direction could transport grit to drainage facilities.
Install dust shielding around sandblasting areas.
Collect and dispose of all spent sandblast grit, use dust containment fabrics and dust collection hoppers and barrels.
Non-hazardous sandblast grit may be disposed in permitted construction debris landfills or permitted sanitary landfills.
If sandblast media cannot be fully contained, construct sediment traps downstream from blasting area where appropriate.
Use sand fencing where appropriate in areas where blast media cannot be fully contained.
If necessary, install misting equipment to remove sandblast grit from the air – prevent runoff from misting operations from entering drainage systems.
Use vacuum grit collection systems where possible.
Keep records of sandblasting materials, procedures, and weather conditions on a daily basis.
Take all reasonable precautions to ensure that sandblasting grit is contained and kept away from drainage structures.

Educational Issues

Educate all on-site employees of potential dangers to humans and the environment from sandblast grit.
Instruct all on-site employees of the potential hazardous nature of sandblast grit and possible symptoms of overexposure to sandblast grit.
Instruct operators of sandblasting equipment on safety procedures and personal protection equipment.
Instruct operators on proper procedures regarding storage, handling, and containment of sandblast grit.
Instruct operators to recognize unfavorable weather conditions regarding sandblasting activities.
Instruct operators and supervisors on current local, state, and federal regulations regarding fugitive dust and hazardous waste from sandblast grit.
Have weekly meetings with operators to discuss and reinforce proper operational procedures.
Establish a continuing education program to indoctrinate new employees.

Material Handling Recommendations

Sandblast media should always be stored under cover away from drainage structures.
Ensure that stored media or grit is not subject to transport by wind.
Ensure that all sandblasting equipment as well as storage containers comply with local, state, and federal regulations.
Refer to Hazardous Waste BMP fact sheet if sandblast grit is known or suspected to contain hazardous components.
Capture and treat runoff which comes into contact with sandblasting material or waste.
Foreman and/or construction supervisor should monitor all sandblasting activities and safety procedures.

Quality Assurance

Educate, and if necessary, discipline workers who violate procedures.
Take all reasonable precautions to ensure that sandblast grit is not transported off-site or into drainage facilities.

Requirements

Education and awareness program for all employees regarding control of sandblasting and potential dangers to humans and the environment.
Operator and supervisor education program for those directly involved in sandblasting activities – instructions on material handling, proper equipment operation, personal protective equipment, fugitive dust control, record keeping and reporting.
Proper sandblast equipment for the job.
Site-specific fugitive dust control and containment equipment.
Site-specific fugitive dust control procedure.
Compliance by supervisors and workers.

Costs

Minimal cost for training and monitoring.
Potential for significant cost for containment procedures on large jobs.
Potential for significant costs associated with cleanup, correction and remediation if containment occurs.

LIMITATIONS

Site specific solutions to sandblasting problems may be required.
Sandblasting operations on structures known to contain hazardous materials require special procedures not specifically outlined above including professional hazardous waste specialists.
Where hazardous materials are known or suspected, a site assessment and remediation plan may be necessary.

HAZARDOUS WASTE MANAGEMENT

DESCRIPTION

The hazardous waste management BMP addresses the problem of storm water polluted with hazardous waste through spills or other forms of contact. The objective of the Management Program is to minimize the potential of storm water contamination from common construction site hazardous wastes through appropriate recognition, handling, storage, and disposal practices.

It is not the intent of this Management Program to supersede or replace normal site assessment and remediation procedures. Significant spills and/or contamination warrant immediate response by trained professionals. Suspected job-site contamination should be immediately reported to regulatory authorities and protective actions taken. The General Permit requires reporting of significant spills to the National Response Center (NRC) at (800)424-8802.

PRIMARY USE

These management practices along with applicable OSHA and EPA guidelines should be incorporated at all construction sites which use or generate hazardous wastes. Many wastes such as fuel, oil, grease, fertilizer, and pesticide are present at most construction sites.

INSTALLATION, APPLICATION AND DISPOSAL CRITERIA

The hazardous waste management techniques presented here are based on proper recognition, handling, and disposal practices by construction workers and supervisors. Key elements of the management program are education, proper disposal practices, as well as provisions for safe storage and disposal. Following are lists describing the targeted materials and recommended procedures:

Targeted Hazardous Waste Materials

Paints
Solvents
Stains
Wood preservatives
Cutting oils
Greases
Roofing tar
Pesticides
Fuel and lube oils
Lead based paints (Demolition)

Storage Procedures

Wherever possible, minimize use of hazardous materials.
Minimize generation of hazardous wastes on the job-site.
Segregate potentially hazardous waste from non-hazardous construction site debris.
Designate a foreman or supervisor to oversee hazardous materials handling procedures.
Keep liquid or semi-liquid hazardous waste in appropriate containers (closed drums or similar) and under cover.
Store waste materials away from drainage ditches, swales, and catch basins.
Use containment berms in fueling and maintenance areas and where the potential for spills is high.
Ensure that adequate hazardous waste storage volume is available.
Ensure that hazardous waste collection containers are conveniently located.
Do not allow potentially hazardous waste materials to accumulate on the ground.
Enforce hazardous waste handling and storage procedures.
Clearly mark on all hazardous waste containers which materials are acceptable for the container.

Disposal Procedures

Regularly schedule hazardous waste removal to minimize on-site storage.
Use only reputable, licensed hazardous waste haulers.

Education

Instruct workers in identification of hazardous waste.
Educate workers of potential dangers to humans and the environment from hazardous wastes.
Instruct workers on safety procedures for common construction site hazardous wastes.
Educate all workers on hazardous waste storage and disposal procedures.
Have regular meetings to discuss and reinforce identification, handling and disposal procedures (incorporate in regular safety seminars).
Establish a continuing education program to indoctrinate new employees.

Quality Assurance

Foreman and/or construction supervisor shall monitor on-site hazardous waste storage and disposal procedures.
Educate, and if necessary, discipline workers who violate procedures.
Ensure that the hazardous waste disposal contractor is reputable and licensed.

Requirements

Job-site waste handling and disposal education and awareness program.
Commitment by management to implement hazardous waste management practices.
Compliance by workers.
Sufficient and appropriate hazardous waste storage containers.
Timely removal of stored hazardous waste materials.

Costs

Possible modest cost impact for additional hazardous storage containers.
Small cost impact for training and monitoring.
Potential cost impact for hazardous waste collection and disposal by licensed hauler – actual cost depends on type of material and volume.

LIMITATIONS

This practice is not intended to address site-assessments and pre-existing contamination.
Major contamination, large spills and other serious hazardous waste incidents require immediate response from specialists.
Demolition activities and potential pre-existing materials, such as asbestos, are not addressed by this program. Site specific information on plans is necessary.
Contaminated soils are not addressed.
One part of a comprehensive construction site waste management program.

SOLID WASTE MANAGEMENT

DESCRIPTION

Large volumes of solid waste are often generated at construction sites including: packaging, pallets, wood waste, concrete waste, soil, electrical wiring, cuttings, and a variety of other materials. The solid waste management practice lists techniques to minimize the potential of storm water contamination from solid waste through appropriate storage and disposal practices.

PRIMARY USE

These practices should be a part of all construction practices. By limiting the trash and debris on site, storm water quality is improved along with reduced clean up requirements at the completion of the project.

APPLICATIONS

The solid waste management practice for construction sites is based on proper storage and disposal practices by construction workers and supervisors. Key elements of the program are education and modification of improper disposal habits. Cooperation and vigilance is required on the part of supervisors and workers to ensure that the recommendations and procedures are followed. Following are lists describing the targeted materials and recommended procedures:

Targeted Solid Waste Materials

Paper and cardboard containers
Plastic packaging
Styrofoam packing and forms
Insulation materials (non-hazardous)
Wood pallets
Wood cuttings
Pipe and electrical cuttings
Concrete, brick, and mortar waste
Shingle cuttings and waste
Roofing tar
Steel (cuttings, nails, rust residue)
Gypsum board cuttings and waste
Sheathing cuttings and waste
Miscellaneous cutting and waste
Food waste
Demolition waste

Storage Procedures

Wherever possible, minimize production of solid waste materials.
Designate a foreman or supervisor to oversee and enforce proper solid waste procedures.
Instruct construction workers in proper solid waste procedures.
Segregate potentially hazardous waste from non-hazardous construction site debris.
Keep solid waste materials under cover in either a closed dumpster or other enclosed trash container that limits contact with rain and runoff.
Store waste materials away from drainage ditches, swales and catch basins.
Do not allow trash containers to overflow.
Do not allow waste materials to accumulate on the ground.
Prohibit littering by workers and visitors.
Police site daily for litter and debris.
Enforce solid waste handling and storage procedures.

Disposal Procedures

If feasible, segregate recyclable wastes from non-recyclable waste materials and dispose of properly.
General construction debris may be hauled to a licensed construction debris landfill (typically less expensive than a sanitary landfill).
Use waste facilities approved by local jurisdiction.
Runoff which comes into contact with unprotected waste shall be directed into structural treatment such as silt fence to remove debris.

Education

Educate all workers on solid waste storage and disposal procedures.
Instruct workers in identification of solid waste and hazardous waste.
Have regular meetings to discuss and reinforce disposal procedures (incorporate in regular safety seminars).
Clearly mark on all solid waste containers which materials are acceptable.

Quality Control

Foreman and/or construction supervisor shall monitor on-site solid waste storage and disposal procedures.
Discipline workers who repeatedly violate procedures.

Requirements

Jobsite waste handling and disposal education and awareness program.
Commitment by management to implement and enforce Solid Waste Management Program.
Compliance by workers.
Sufficient and appropriate waste storage containers.
Timely removal of stored solid waste materials.
Possible modest cost impact for additional waste storage containers.
Small cost impact for training and monitoring.
Minimal overall cost impact.

LIMITATIONS

Only addresses non-hazardous solid waste.
One part of a comprehensive construction site management program.

CONCRETE WASTE MANAGEMENT

DESCRIPTION

Concrete waste at construction sites comes in two forms; 1) excess fresh concrete mix including truck and equipment washing, and 2) concrete dust and concrete debris resulting from demolition and sawing. Both forms have the potential to impact water quality through storm water runoff contact with the waste.

PRIMARY USE

Concrete waste is present at most construction sites. This BMP should be utilized at sites in which concrete waste is present.

APPLICATIONS

A number of water quality parameters can be affected by introduction of concrete – especially fresh concrete. Concrete affects the pH of runoff, causing significant chemical changes in water bodies and harming aquatic life. Suspended solids in the form of both cement and aggregate dust are also Generated from both fresh and demolished concrete waste:

Current Unacceptable Waste Concrete Disposal Practices

Dumping in vacant areas on the job-site.
Illicit dumping off-jobsite.
Dumping into ditches or drainage facilities.

Recommended Disposal Practices

Avoid unacceptable dumping practices listed above.
Develop predetermined, safe concrete disposal areas.
Provide a washout area with a minimum of 6 cubic feet of containment area volume for every 10 cubic yards of concrete poured.
Never dump waste concrete illicitly or without property owners knowledge and consent.
Treat runoff from storage area through the use of structural controls as required.

Education

Drivers and equipment operators should be instructed on proper disposal and equipment washing practices (see above).
Supervisors must be made aware of the potential environmental consequences of improperly handling concrete waste.

Enforcement

The construction site manager or foreman must ensure that employees and pre-mix companies follow proper procedures for concrete disposal and equipment washing.
Employees violating disposal or equipment cleaning directives must be reeducated or disciplined if necessary.

Demolition Practices

Monitor weather and wind direction to ensure concrete dust is not entering drainage structures and surface waters.
Where appropriate, construct sediment traps or other types of sediment detention devices downstream of demolition activities.

Requirements

Use predetermined disposal for waste concrete.
Prohibit dumping waste concrete anywhere but predetermined areas.
Assign predetermined truck and equipment washing areas.
Educate drivers and operators on proper disposal and equipment cleaning procedures.

Costs

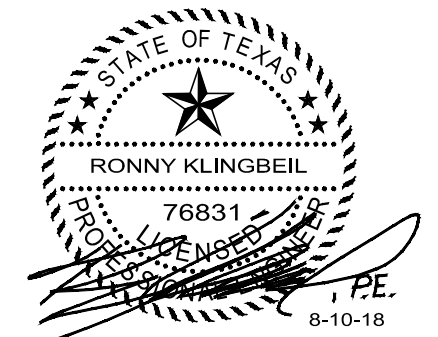
Minimal cost impact for training and monitoring.
Concrete disposal cost depends on availability and distance to suitable disposal areas.
Additional costs involved in equipment washing could be significant.

LIMITATIONS

This concrete waste management program is one part of a comprehensive construction site management program.

RECORD DRAWING

To the best of our knowledge, RLK Engineering, Inc. hereby states that this plan is as built. Information provided is based on surveying at the site and information provided by contractor.



EROSION CONTROL NOTES

DOBBS ELEMENTARY SCHOOL
ROCKWALL, TEXAS

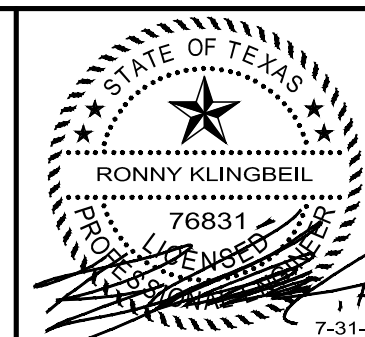
SIGNED BY: RLK Engineering	TECH REVIEW: RLK	DRAWING FILE: 16001_EC2.dwg	DRAWING SCALE: NA	SHEET: C5.01
DRAWN BY: RLK Engineering	PEER REVIEW: RLK	DRAWING DATE: 6-6-17	PROJECT NUMBER: RLK: 16001	

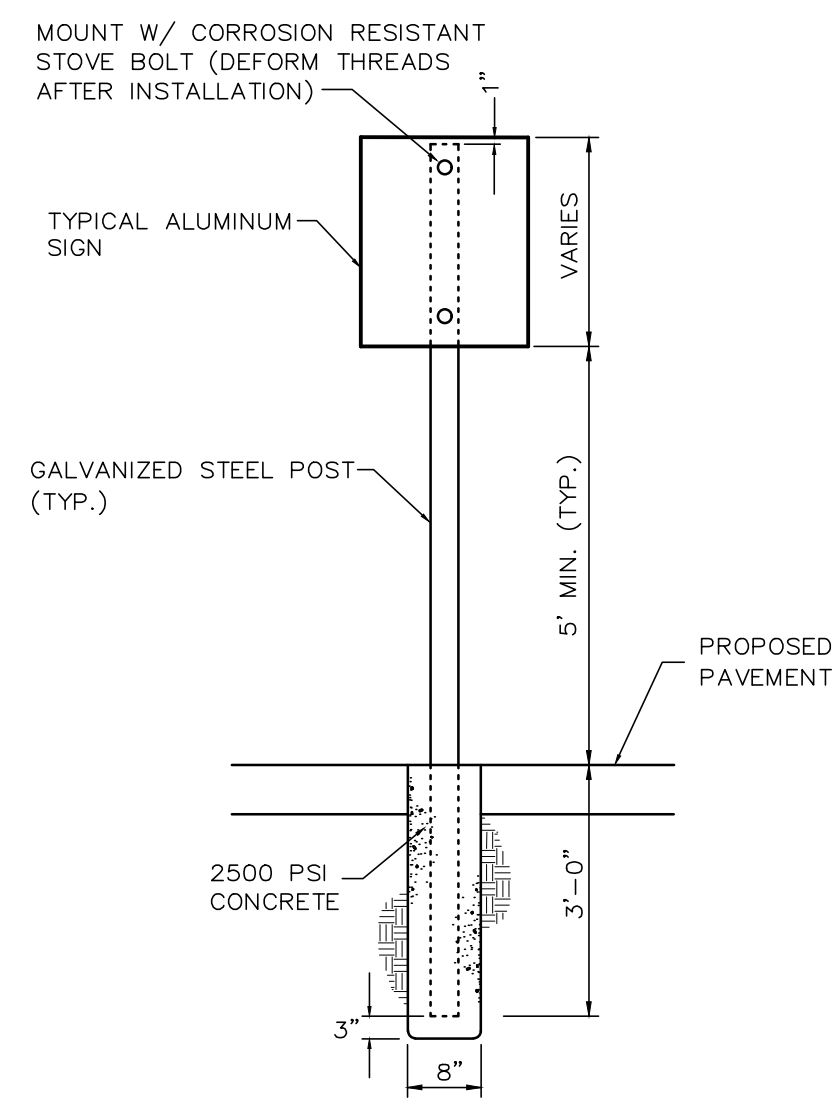
MISC. INFORMATION

REVISION	DATE	DESCRIPTION

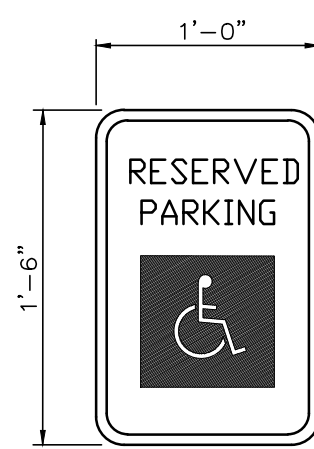


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Texas Registration No. 579





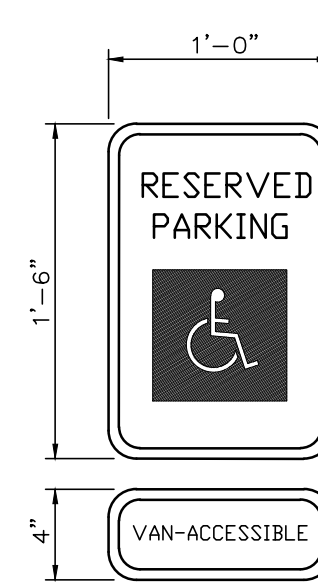
TYPICAL SIGNAGE MOUNTING DETAIL
N.T.S.



COLORS:
LETTERS AND BORDER - GREEN
SYMBOL ON BLUE BACKGROUND
SIGN BACKGROUND - WHITE

- NOTES:
1. SPACING BETWEEN LETTERS, COLORS, AND PROCESSES SHALL CONFORM STANDARD HIGHWAY AND SIGN DESIGNS FOR TEXAS.
 2. INSTALL WHERE INDICATED ON PLANS.
 3. VAN-ACCESSIBLE SIGNAGE ON VAN SPACES ONLY.

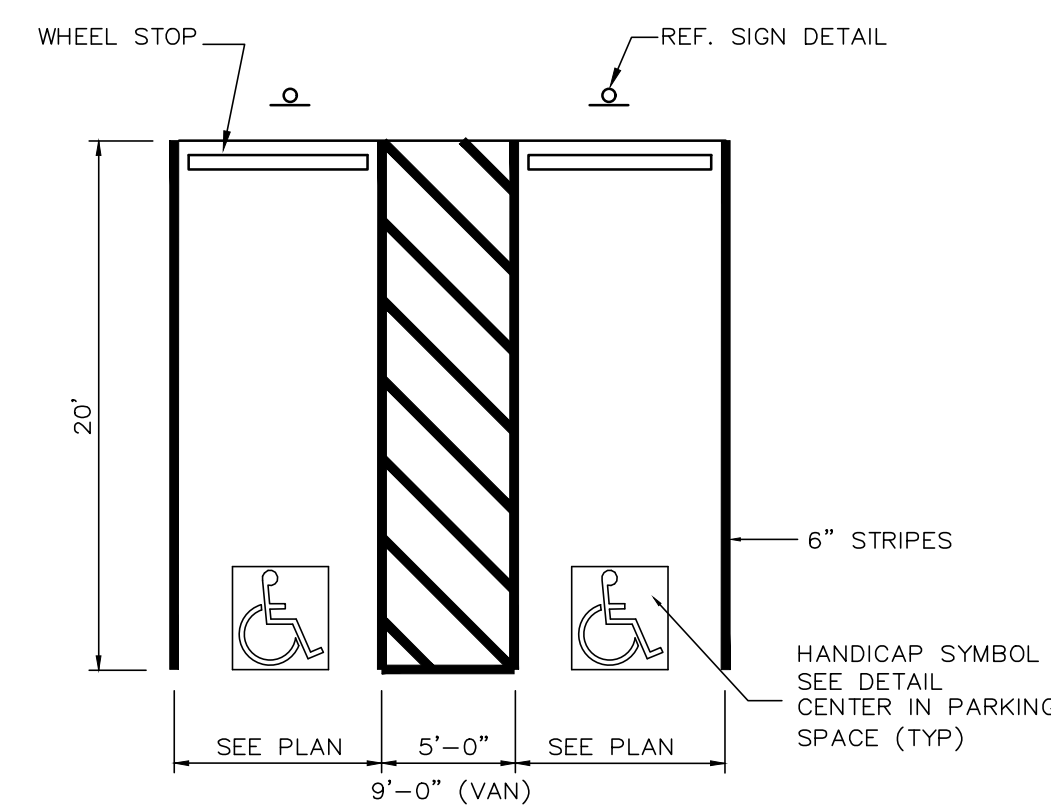
**TYPICAL SIGNAGE DETAIL
TYPE I**
N.T.S.



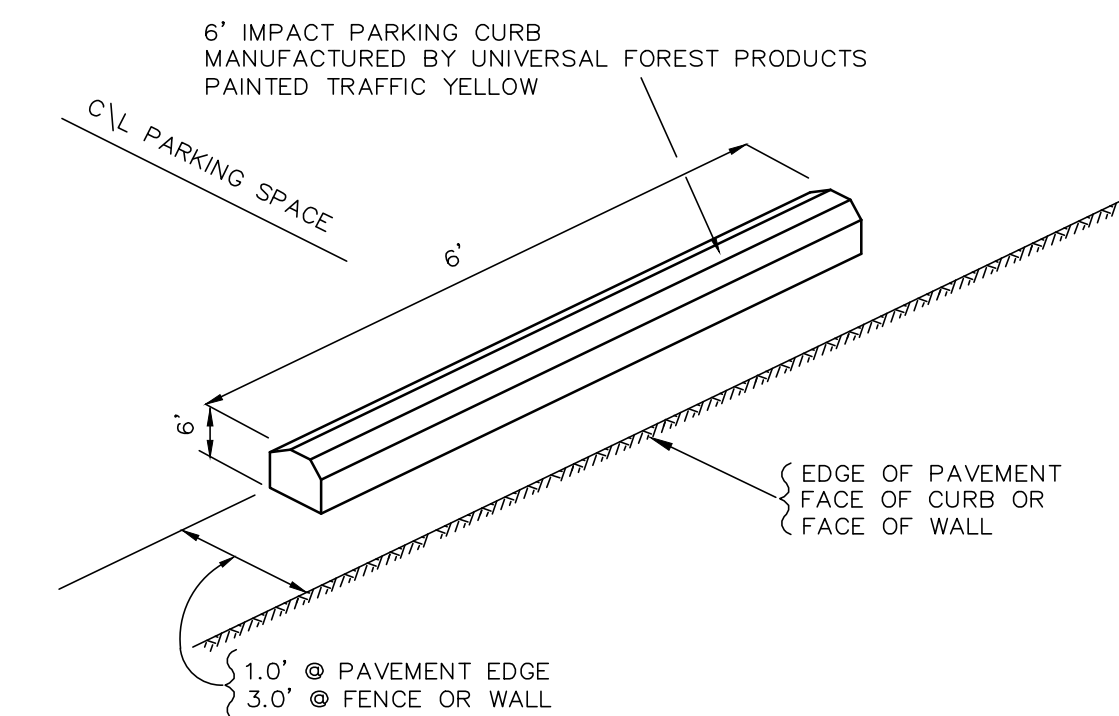
COLORS:
LETTERS AND BORDER - GREEN
SYMBOL ON BLUE BACKGROUND
SIGN BACKGROUND - WHITE

- NOTES:
1. SPACING BETWEEN LETTERS, COLORS, AND PROCESSES SHALL CONFORM STANDARD HIGHWAY AND SIGN DESIGNS FOR TEXAS.
 2. INSTALL WHERE INDICATED ON PLANS.
 3. VAN-ACCESSIBLE SIGNAGE ON VAN SPACES ONLY.

**TYPICAL SIGNAGE DETAIL
TYPE II**
N.T.S.

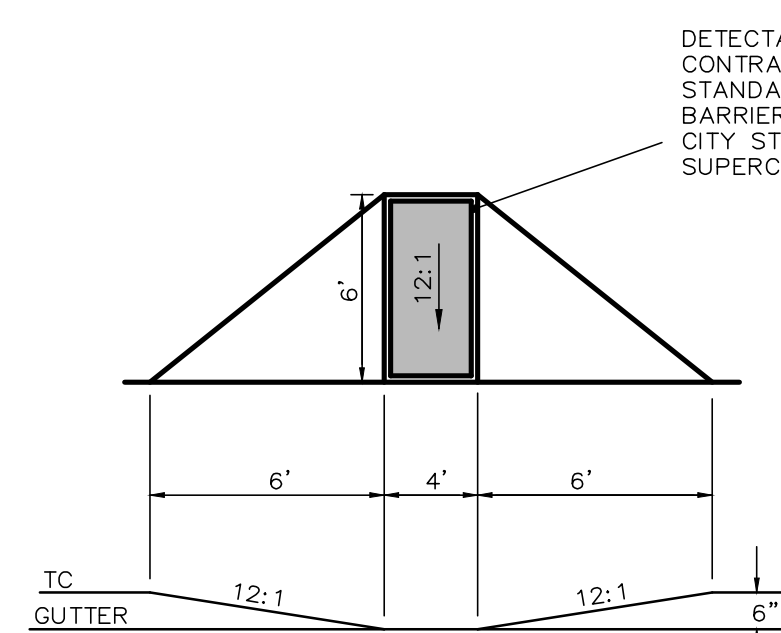


HANDICAP STRIPING DETAIL
N.T.S.

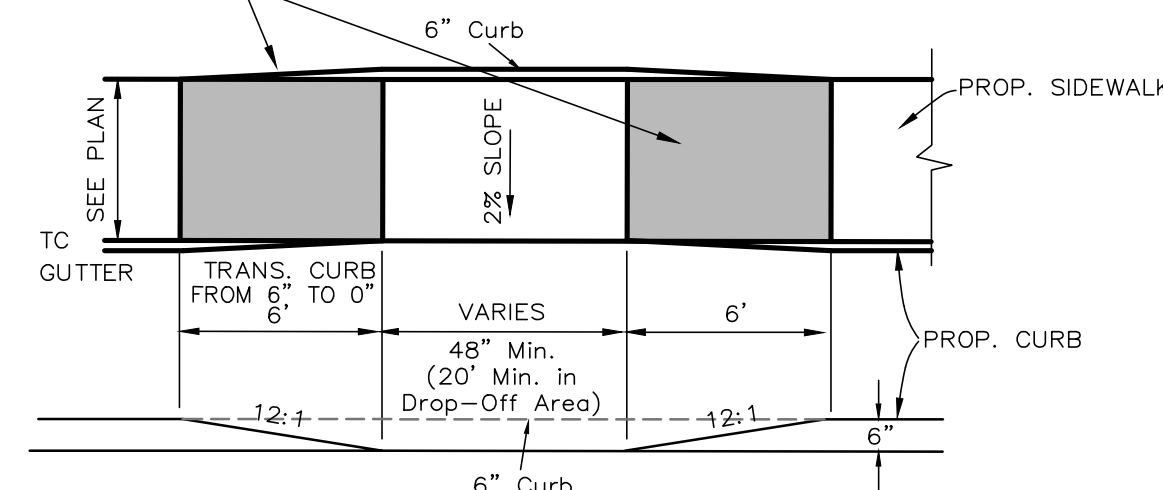


1. PROVIDE ONE 6' IMPACT PARKING CURB PER PARKING SPACE 2 FEET FROM BACK OF CURB AT LOCATIONS INDICATED ON THE PAVING PLAN.
2. THE PRECAST CONCRETE SAFETY CURB SHALL BE ATTACHED SECURELY TO THE CONCRETE PAVEMENT WITH EPOXY ADHESIVE AS PER THE SPECIFICATIONS.

PRECAST CONCRETE WHEELSTOP
N.T.S.

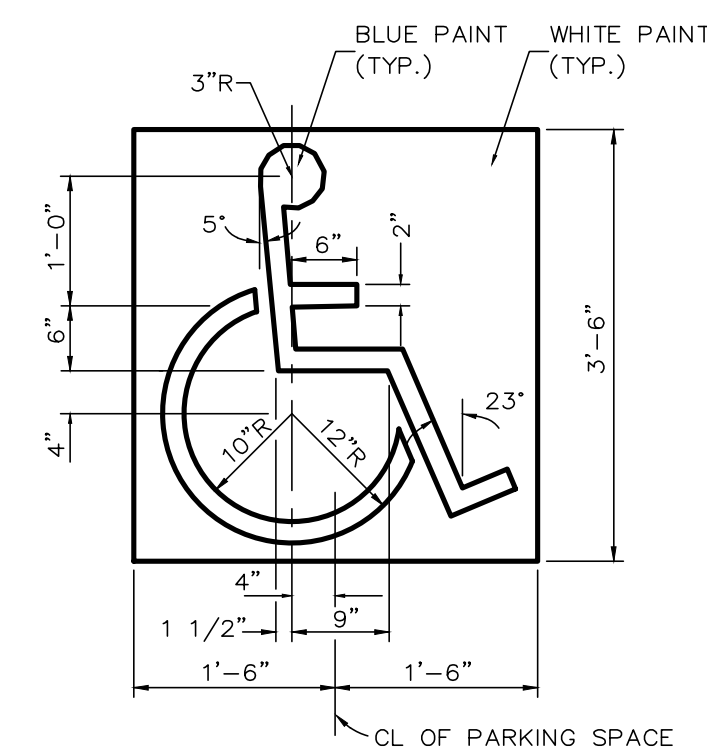


DETECTABLE WARNING SURFACE PER ADA STANDARDS. CONTRASTING COLOR STAINED CONCRETE PER ADA STANDARDS. COLOR SHALL BE PER OWNER. ALL BARRIER FREE RAMPS SHALL MEET LATEST ADA & CITY STANDARDS. ADA & CITY STANDARDS MAY SUPERCEDE THESE DETAILS.

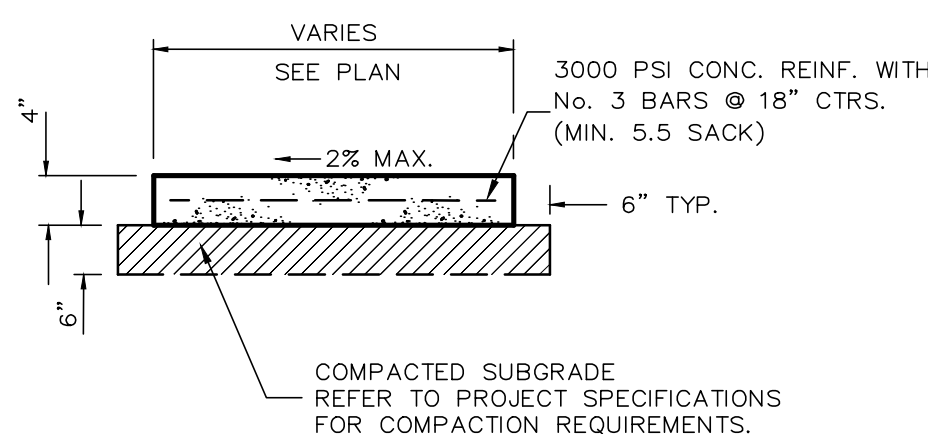


HANDICAP RAMP DETAILS
N.T.S.

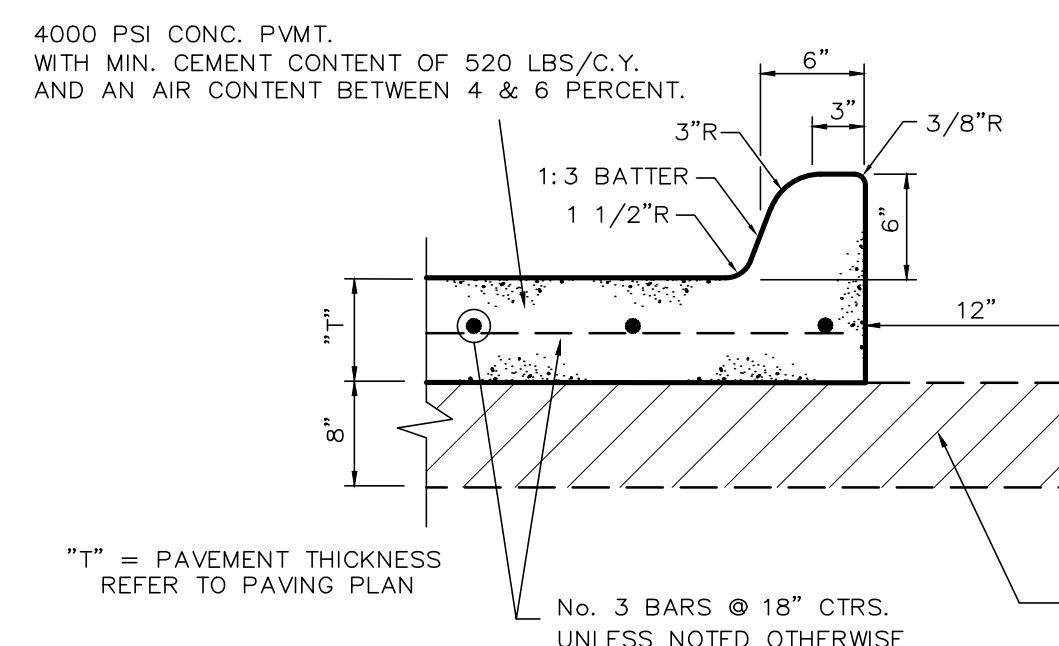
THIS DETAIL APPLIES TO PRIVATE PROPERTY ONLY.
REF. CITY DETAILS FOR HC RAMPS WITHIN CITY R.O.W.



HANDICAP SYMBOL DETAIL
N.T.S.



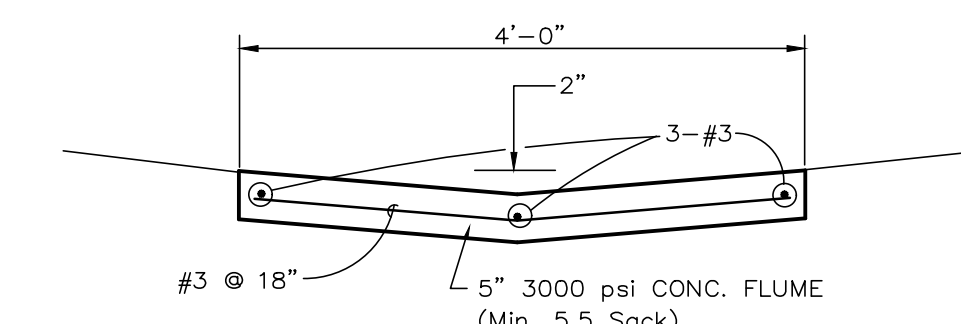
SITE SIDEWALK DETAIL
N.T.S.



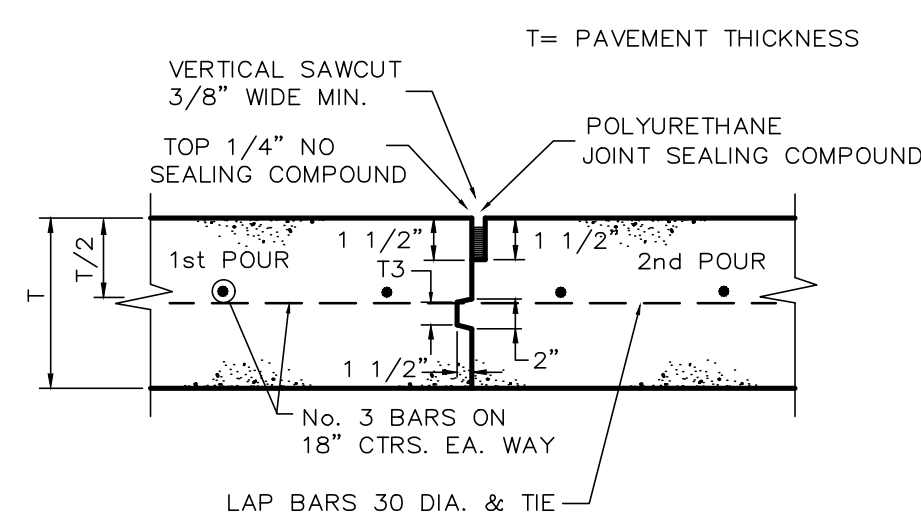
"T" = PAVEMENT THICKNESS
REFER TO PAVING PLAN

NOTE:
REFER TO GEOTECHNICAL EXPLORATION FOR FILL COMPACTION REQUIREMENTS, PAVEMENT INSTALLATION, AND ALL EARTHWORK OPERATIONS.

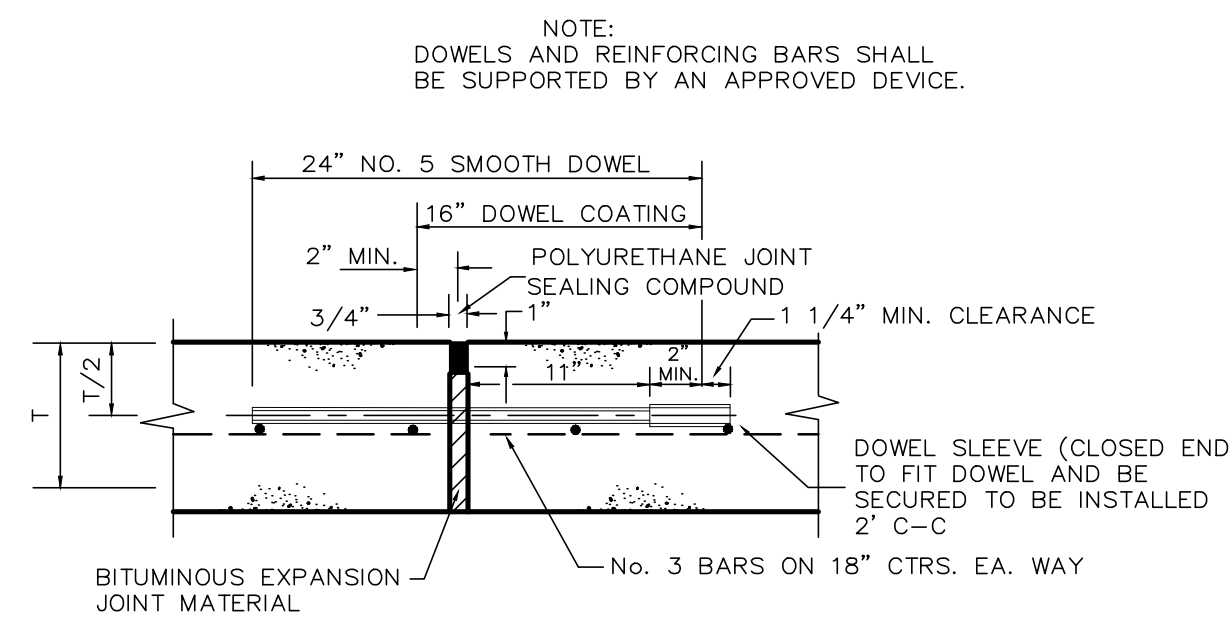
CONCRETE PAVEMENT SECTION
N.T.S.



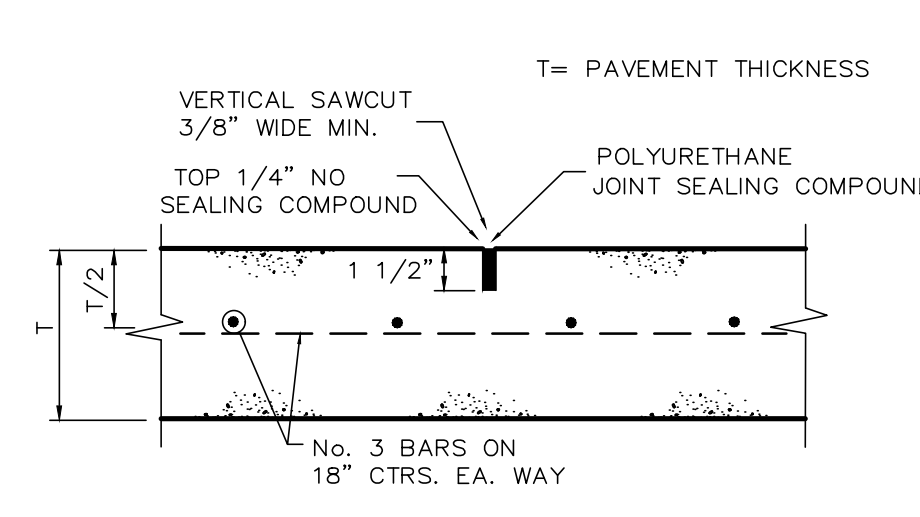
FLUME DETAIL
N.T.S.



CONSTRUCTION JOINT
N.T.S.

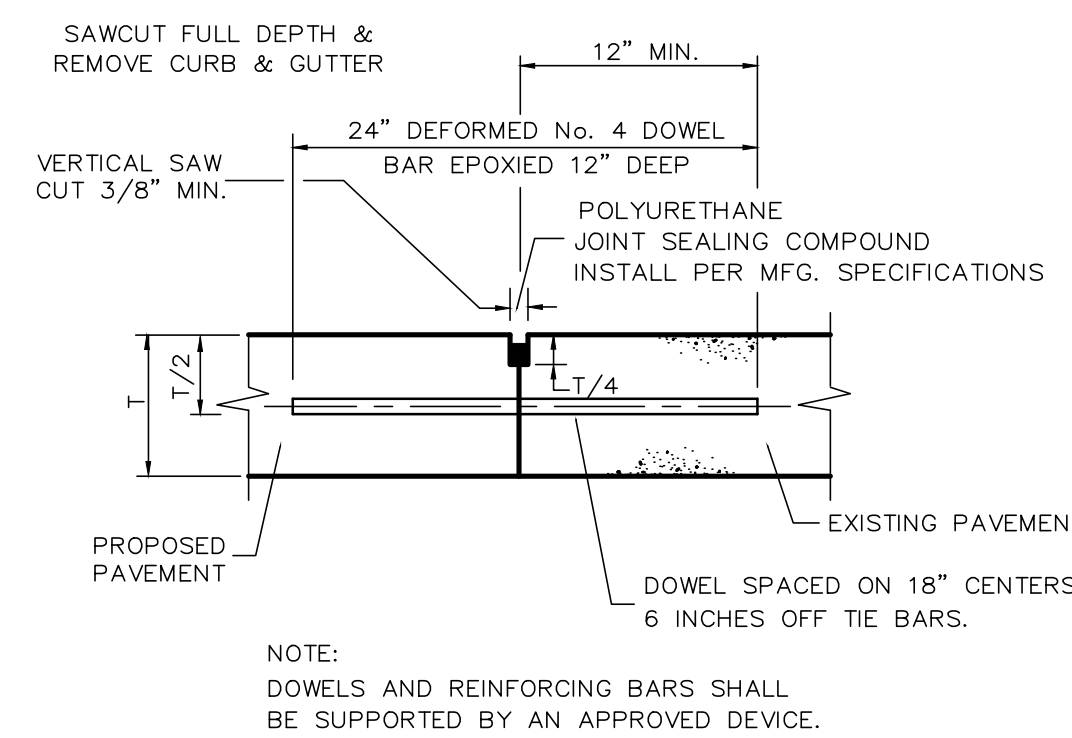


EXPANSION JOINT
N.T.S.



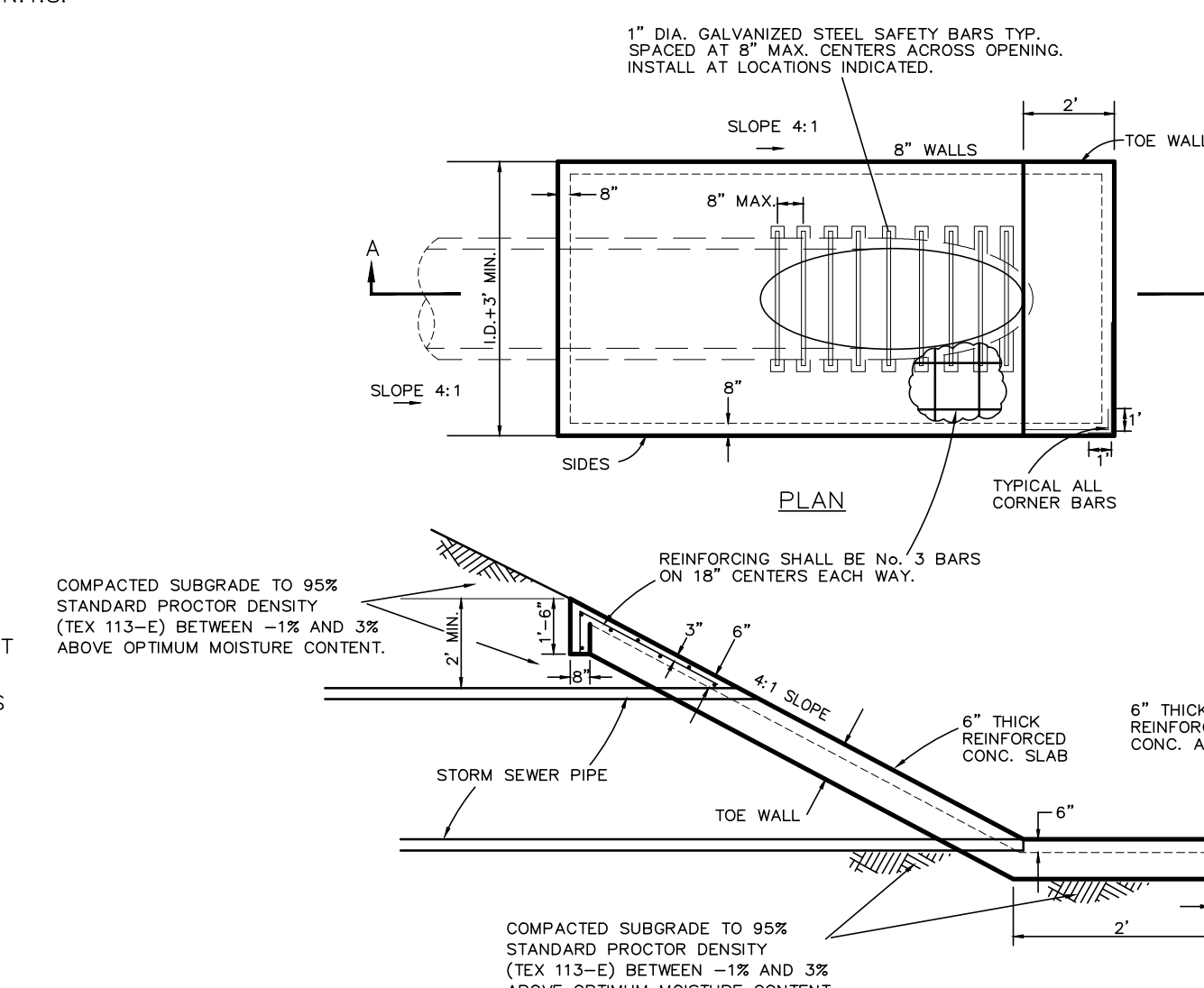
SAWED DUMMY (CONTROL) JOINT
N.T.S.

MAXIMUM SPACING IS 15' CTRS. (TYP.)



- NOTES:
1. DOWEL BARS SHALL BE DRILLED INTO PAVEMENT HORIZONTALLY BY USE OF A MECHANICAL RIG.
 2. DRILLED BY HAND IS NOT ACCEPTABLE. PUSHING DOWEL BARS INTO GREEN CONCRETE NOT ACCEPTABLE.

LONGITUDINAL BUTT JOINT
N.T.S.



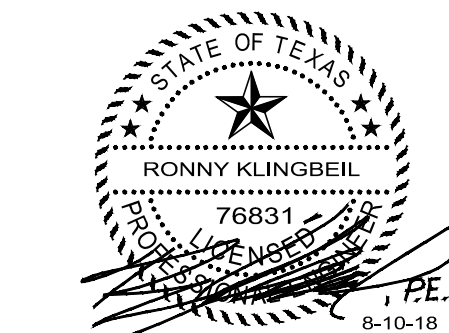
SECTION A-A

SLOPED END HEADWALL DETAIL
N.T.S.

NOTE:
CITY DETAILS TAKE PRECEDENCE
IN CITY R.O.W.

**RECORD
DRAWING**

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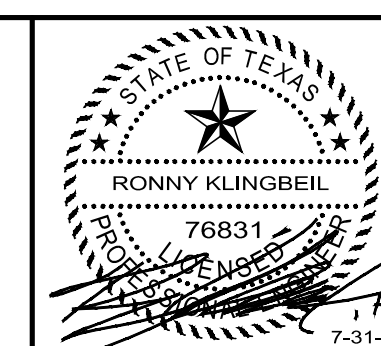
MISC. INFORMATION

REVISION DATE DESCRIPTION

NOTE:
Prior to beginning any construction or construction staking, it shall be the Contractor's responsibility to contact the civil engineer to insure that all parties are in possession of the most current set of construction documents.



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SITE DETAILS

DOBBS ELEMENTARY SCHOOL
ROCKWALL, TEXAS

SIGNED BY: RLK Engineering	TECH REVIEW: RLK	DRAWING FILE: 16001 DETAILS.dwg	DRAWING SCALE: NA	SHEET: C6.00
DRAWN BY: RLK Engineering	PEER REVIEW: RLK	DRAWING DATE: 6-6-17	PROJECT NUMBER: RLK 16001	