P.O. Box 839966
San Antonio, TX 78283-3966

Report Date 04/08/2013 10:51 AM **Submitted By** Page 1

Act # 917374 **A/P #** 1854760 **Act Type** SIDEWALK SIDEWALK REVIEW **#** 2

Property Information
Parcel 484859
Location 226 & 238 N LOOP 1604 W

Application Information
Type COMBLDGGEN COMMERCIAL SINGLE BUILDING **Priority** 35 **Type of Work** NEW **Dept of Commerce** COMMER
Square Footage 27426.00 **Declared Valuation** 2800000.00 **A/P Name** NORTH LOOP RETAIL CENTER
Desc of Work TWO STORY SHELL BLDG WITH SITE WORK TO INCLUDE PARKING LOT,SIDEWALKS AND THE SHELL FOUNDATION.

Initial Review
Issued Date/Time 04/03/2013 14:53 **Issued By** RS15527 ☐ System Generated
Scheduled Date/Time **Scheduled By** ☐ Waived
Department DSDFIR **Assigned To** LL12573

Review Results
Reviewed By LL12573 ☒ Approved **Suspense Date** 04/10/2013
Start Date/Time 04/08/2013 10:39 **Completed Date/Time** 04/08/2013 10:47 **Actual Time** 0.00

Comments
No Comments

Problems

Violation OTHER **Description** OTHER TYPE OF VIOLATION
Recorded Date 04/08/2013 00:00 **Recorded By** LL12573 **Recorded Version** 1
Resolved Date **Resolved By** **Resolved Version**
Status **Status Date**
Comments Shall obtain approval/permits from TXDOT for any construction on State Right-Of -Way.

Engineer shall ensure that all existing/proposed sidewalk, approaches, and curbs comply with Texas Accessibility Standards and the UDC. Non-compliant concrete flatwork shall be replaced - wheelchair ramps shall comply with Public Works wheelchair details 2006 (truncated domes are required at controlled street intersections).

Wheel chair ramps at driveway approach(es) shall be broom finished (scoring, truncated domes or grooves are not permitted).

A sidewalk drain box will be required if there is surface water runoff over the sidewalk. All metal parts shall be galvanized.

As per UDC Section 35-506 (a) (2) sidewalks shall be constructed to current City and TAS Specs.
Note: Any damage to ROW will need to be repaired.

P.O. Box 839966
San Antonio, TX 78283-3966

Report Date 04/08/2013 10:51 AM **Submitted By** Page 1

Act # 917373 **A/P #** 1854760 **Act Type** TRAFFIC TRAFFIC REVIEW **#** 2

Property Information
Parcel 484859
Location 226 & 238 N LOOP 1604 W

Application Information
Type COMBLDGGEN COMMERCIAL SINGLE BUILDING **Priority** 35 **Type of Work** NEW **Dept of Commerce** COMMER
Square Footage 27426.00 **Declared Valuation** 2800000.00 **A/P Name** NORTH LOOP RETAIL CENTER
Desc of Work TWO STORY SHELL BLDG WITH SITE WORK TO INCLUDE PARKING LOT,SIDEWALKS AND THE SHELL FOUNDATION.

Initial Review
Issued Date/Time 04/03/2013 14:53 **Issued By** RS15527 ☐ System Generated
Scheduled Date/Time **Scheduled By** ☐ Waived
Department DSDFIR **Assigned To** LL12573

Review Results
Reviewed By LL12573 ☒ Condition Approval **Suspense Date** 04/10/2013
Start Date/Time 04/08/2013 10:00 **Completed Date/Time** 04/08/2013 10:38 **Actual Time** 0.00

Comments
No Comments

Problems

Violation OTHER **Description** OTHER TYPE OF VIOLATION
Recorded Date 04/05/2013 00:00 **Recorded By** LL12573 **Recorded Version** 1
Resolved Date **Resolved By** **Resolved Version**
Status **Status Date**
Comments Shall coordinate with TXDOT for signage warning drivers exiting the property that the access road is a one way road going east and that the off ramp isn't an entry onto the highway.

Shall obtain approval/permits from TXDOT for any construction on State Right-Of -Way.

RETAIL: 27426 sq. ft.
Minimum ratio: 1 per 300 = 91 stalls
Maximum ratio: 1 per 200 = 137 stalls

107 PARKING STALLS PROPOSED...OK

9 BIKE SPACES ARE REQUIRED...CONTRACTOR SHALL LOCATE THE 9 BIKE SPACES WITHIN 50 FEET OF THE BUILDINGS MAIN ENTRANCE. EITHER DRAWING 1 OR 2 TYPES MAY BE USED (DRAWING 3 OR WAVE TYPE RACKS ARE UNACCEPTABLE).

SPECIAL NOTES:
***Call city construction inspector at 210.207.1111, Option 0 prior to commencing any work or pouring concrete.
***Refer to sheet 5 dated and signed by the Engineer on 03.28.13 for site layout.

STANDARD COMMENTS
***Contact Elwerd Wiederhold at 207-2806 twenty four (24) hours for inspections prior to pouring concrete and / or traffic (parking) inspections.
***Call 207-2806 for Sidewalk, Driveway inspections before pouring concrete.
***Curbs to remain if to City and TAS specifications. If not compliant they shall be reconstructed to meet City and TAS specifications.
***All access driveways shall be provided with Clear Vision Area in accordance with UDC 35-506 (d) (5). Clear vision areas must be free of visual obstructions, e.g. structures, walls, fences and vegetation which are higher than three (3) feet and lower than eight (8) feet above the street pavement.
***Impervious cover shall be maintained or constructed as per UDC Section 35-526 (f) (1). Off-street parking, as per UDC Section 35-526 (2) (f) (1). Construction and Maintenance
Off-street parking facilities shall be constructed, maintained and operated in accordance with the following specifications: (1) Drainage and Surfacing. Areas shall be properly graded for drainage, surfaced with concrete, asphaltic concrete, or asphalt and maintained in good condition free of weeds, dust, trash and debris.
***City approved plans shall be maintained at the jobsite and be accessible to City Inspectors at all times during work activities.
***All concrete work shall comply with COSA Standards and Specifications.

ROW BLVD., SUITE 350, AUS

CITY OF SAN ANTONIO
DEVELOPMENT SERVICES DEPARTMENT
PLANS REVIEW DIVISION
REVIEWED FOR CODE COMPLIANCE

TRADE	PLANS EXAMINER	DATE
BUILDING:		2/9/13 C. ALDABA
FIRE:		
MECHANICAL:	R. Cortez	4/11/13 N/A I only, No mechanical
ELECTRICAL:		4/4/13 VALERIE L. GOTTASON 210 207 2035
PLUMBING:	BPWUA	5-10-13 201-0152
TRAFFIC/SIDEWALK:		4-8-13 078320
DRAINAGE:		
LANDSCAPE/IRRIGATION:		
TREE:		
HEALTH:		
HISTORICAL:		
SAWS:		
DISABILITY:		

Tree Preservation / Landscape Ordinance
Pre-Construction Meeting
(Sec. 35-477. Tree Permits. (5)(C.)

A/P # _____ Date: _____

Location (address or parcel): _____
Description (check all that apply)

- ☐ Review Plans and Permit (to include: Civil vs. Tree/Landscape/Irrigation/Grading/Utility conflicts, etc.) [UDC Section 35-477 Tree Permits (5) (c)]
- ☐ Fencing [UDC Section 35-523(j) (2)]
- ☐ Mulch (2-3") [UDC Section 35-523 (i) (1)]
- ☐ Pruning to follow ANSI A-300 Standards (City of San Antonio Tree Maintenance License required, [UDC Section 21-171]
- ☐ Oakwilt [UDC Section 21-170]
- ☐ Warranty Trees (photograph all warranty trees)
- ☐ Mitigation Trees
- ☐ Staging/Storage/Parking
- ☐ Other (describe)

_____ _____
Signature of Responsible Party and Contact # Date

_____ _____
Signature of Inspector / Badge # Phone No.

NORTH LOOP RETAIL CENTER

226 & 238 TEXAS LOOP 1604
SAN ANTONIO, TEXAS 78221

BUILDING SYSTEMS:

1. CIVIL ENGINEERING: PER CIVIL ENGINEER'S PLANS
2. STRUCTURAL FOUNDATION: PER STRUCTURAL PLANS.
   DESIGNED TO SOIL TEST RESULT RECOMMENDATIONS.
3. STRUCTURAL FRAMING: PER STRUCTURAL PLANS.
   CONSTRUCTION TYPE: II-B, NON COMBUSTIBAL.
4. EXTERIOR WALL MATERIAL: PER ARCHITECTURAL PLANS
   LIGHT GAGE METAL STUDS FRAMING WITH R-19 INSULATION AND THERMO-PLY ENERGY SAVING EXTERIOR SHEATHING MATERIAL AND EXTERIOR STUCCO FINISH.
   WALKWAY FASCIA TO BE PANELS MADE WITH FIBER-CEMENT BOARDS.
5. EXTERIOR GLAZING MATERIAL: PER ARCHITECTURAL PLANS
   LOW-E INSULATED GLASS, TEMPERED.
   BUTT-GLAZED SYSTEM WITHOUT VERTICAL ALUM. MULLIONS.
   FINISH TO BE SELECTED BY OWNER AND ARCHITECT.
6. DOORS: PER ARCHITECTURAL PLANS.
   STORE ENTRY DOORS TO BE (2) 3'-0" X 10'-0" DOORS.
   OTHERS MIN. 3'X7' 20-MIN. STEEL DOORS FOR LEASE SPACES SERVICE DOORS..
7. CEILING SYSTEM: PER ARCHITECTURAL PLANS.
   PROVIDE ACOUSTICAL SUSPENDED CEILING SYSTEM FOR FUTURE TENANTS.
8. ROOFING SYSTEM: PER ARCHITECTURAL PLANS.
   EQ. TO TPO SINGLE PLY SYSTEM OVER R-32 RIGID INSULATION PER 2012 IBC CODE.
9. MECHANICAL SYSTEM: PER MECHANICAL ENGINEERING PLANS, PER 2012 IMC.
   INDIVIDUAL ROOF TOP UNITS BASED ON LEASE SPACE REQUIREMENTS.
10. ELECTRICAL SYSTEM: PER ELECTRICAL ENGINEERING PLANS, PER 2011 NEC.
    INDIVIDUAL METERED BASED ON LEASE SPACE REQUIREMENTS.
    EXPLORE USAGE OF SOLAR PANEL SUPPLEMENTAL SYSTEMS.
11. PLUMBING SYSTEM: PER PLUMBING ENGINEERING PLANS, PER 2012 IPC.
    INDIVIDUAL METERED BASED ON LEASE SPACE REQUIREMENTS.
    EXPLORE USAGE OF SOLAR PANEL SUPPLEMENTAL SYSTEMS.
12. AUTOMATIC SPRINKLER SYSTEM: PER FIRE SPRINKER ENGINEERING PLANS.
    MEETS FIRE PROTECTION CODE REQUIREMENTS, PER 2003 IFC.
    MUST BE APPROVED BY THE FIRE DEPARTMENT WITH A SEPARATE PERMIT.
13. ADA COMPLIANCES: PER ARCHITECTURAL PLANS. TDLR REQUIRED.
    PROVIDE ACCESSIBLE ROUTE FOR PEDESTRIANS FROM CITY SIDEWALK TO THE STOREFRONT.
    PROVIDE ACCESSIBLE MEANS OF EGRESS, ALARM SYSTEM, PARKING SPACES AND ALL OTHER REQUIREMENTS PER CODE.

FIRE DEPARTMENT NOTES:

1. ADDRESS NUMBERS AT LEAST 8" HIGH MUST BE VISIBLE FROM THE STREET. THE ADDRESS NUMBERS MUST BE OF A COLOR THAT CONTRASTS WITH THE BACKGROUND AND MUST BE INSTALLED ON THE SIDE OF THE BUILDING THAT FACES THE PUBLIC STREET.
2. FOR EACH TENANT SPACE, INCLUDE THE SUITE NUMBER IN 4" NUMBERS NEAR THE FRONT DOOR AND ON THE REAR DOOR.
3. PROVIDE A KNOX KEY BOX. FOR ORDERING AND LOCATION INFORMATION CALL EMERGENCY PREVENTION OFFICE.
4. PORTABLE FIRE EXTINGUISHERS (NOT LESS THAN 2-A: 10-B-C) MUST BE PROVIDED WITHIN 75 FEET OF ANY POINT IN THE BUILDING, MEASURED ALONG THE PATH OF TRAVEL. IFC 906.
5. DUCT DETECTORS ON AIR HANDLERS REQUIRE REMOTE AUDIO/VISUAL INDICATORS IF THE DETECTORS ARE INSTALLED MORE THAN 10 FT ABOVE THE FINISHED FLOOR LEVEL, OR IF THE DETECTORS ARE INSTALLED ABOVE THE CEILING, UNLESS THE DETECTORS ARE CONNECTED TO A FIRE ALARM SYSTEM AND THE LOCATION OF THE DETECTOR IS CLEARLY SHOWN AT THE FIRE ALARM PANEL.

ADA ACCESSIBILITY GUIDELINES:

1. ADA AG: 4.1.2 (5): PARKING SPACES (SEE CITY APPROVED SITE PLAN)
2. ADA AG: 4.13.8: THRESHOLD AT EXIT DOORS SHALL NOT BE HIGHER THAN 1/2".
3. PROVIDE MAX. SLOPE AT 2% IN ANY DIRECTION OUTSIDE OF ENTRANCE DOORS.
4. SEE DETAILS ON SHEET A-0.1 FOR BATHROOM FIXTURE CLEARANCE AND MOUNTING HEIGHTS.
5. PROVIDE FOR RECEPTIONIST COUNTER: 36"LX18"DX34"H. MINIMUM SIZE.

PROJECT SYNOPSIS

PROJECT NAME: NORTH LOOP RETAIL CENTER

LEGAL DESCRIPTION:
LOTS 3 & 4, BLOCK 1, N.C.B. 16329, ALLEN - 1604 SUBDIVISION AS RECORDED IN VOL. 9546, PG 33, DEED & PLAT RECORDS OF BEXAR CO., TEXAS, LOCATED ON LOOP 1604, CITY OF SAN ANTONIO, BEXAR COUNTY, TEXAS

ADDRESS: 226 & 238 TEXAS LOOP 1604
SAN ANTONIO, TEXAS 78221

OWNER: JAVAD BONAKCHI (210) 641.7665

ARCHITECT: TCHEN ARCHITECTS
11908 ANDERSON MILL, Ste-1026
AUSTIN, TEXAS 78726
512.351.1801

CIVIL & STRUCTURAL ENGINEER:
PROFESSIONAL STRUCIVIL ENGINEERS, INC.
12710 RESEARCH BLVD., STE-390
AUSTIN, TEXAS 78759
512.238.6422

MEP ENGINEER: ALPACA ENERGY SOLUTIONS, INC.
3532 BEE CAVES ROAD, STE-111
AUSTIN, TEXAS 78746
512.328.8999

USE AND OCCUPANCY CLASSIFICATION :
MERCANTILE GROUP M (SEC. 309)

CONSTRUCTION TYPE: 1ST FLOOR AREA: 13,538 S.F.
TYPE II-B, 4-STORY, 12,500 S.F. /FLOOR.
(INCREASE BY 200% WITH AUTOMATIC SPRINKLER SYSTEM, TO 25,000 S.F.)

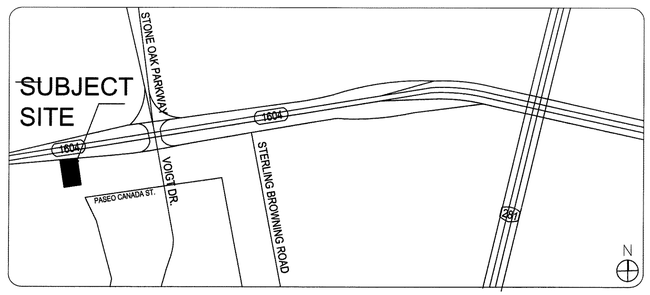
ZONING DISTRICT: C3 ERZD

BUILDING AREA TABULATION:

1ST FLOOR: 13,538 S.F. LEASE SPACE,
672 S.F. STAIRWAYS

2ND FLOOR: 13,888 S.F. LEASE SPACE,
5,682 S.F. WALKWAY AREA

TOTAL LEASE AREA: 27,426 S.F.



VICINITY MAP (N.T.S.)

SHEET	DRAWING TITLE
A-0.0	COVER SHEET
A-0.1	TAS & ADA STANDARDS
A-1.0	FIRST FLOOR PLAN
A-1.1	SECOND FLOOR PLAN
A-1.2	ROOF PLAN
A-2.0	ELEVATIONS
A-2.1	ELEVATIONS
A-3.0	BUILDING SECTIONS
A-3.1	WALL SECTIONS
A-3.2	DETAILS
A-3.3	ELEVATOR PLAN & DETAILS
A-3.4	TRASH ENCLOSURE PLAN & DETAILS
S 0	GENERAL STRUCTURAL NOTES
S 1	FOOTING LAYOUT PLAN
S 2	COLUMN LAYOUT PLAN
S 3	SLAB ON GRADE PLAN
S 4	SECOND FLOOR FRAMING PLAN
S 5	ROOF FRAMING PLAN
S 6	UPPER ROOF FRAMING PLAN
S 7	FOUNDATION DETAILS
S 8	STEEL FRAME ELEVATION GRID #A
S 9	STEEL FRAME ELEVATION GRID #D
S 10	STEEL FRAME ELEVATION GRID #E
S 11	STEEL FRAME ELEVATION GRID #F
S 12	STEEL FRAME ELEVATION GRID #H
S 13	STEEL FRAME ELEVATION GRID #1 & #2
S 14	STEEL FRAME ELEVATION GRID #3 & #4
S 15	STEEL FRAME ELEVATION GRID #5
S 16	GENERAL STEEL DETAILS
S 17	GENERAL STEEL DETAILS
S 18	ELEVATOR CONCRETE WALL
S 19	STAIRW CONCRETE WALL
EP-1.0	ELECTRICAL / PLUMBING SITE PLAN
E-2.0	FIRST FLOOR ELECTRICAL PLAN
E-2.1	SECOND FLOOR ELECTRICAL PLAN
E-3.0	ELECTRICAL NOTES & SCHEDULE
E-4.0	PHOTOMETRIC PLAN
P-2.0	FIRST FLOOR PLUMBING PLAN
P-2.1	SECOND FLOOR PLUMBING PLAN
P-3.0	PLUMBING NOTES & DETAILS

Tchen Architects
11908 ANDERSON MILL, #325
AUSTIN, TEXAS 78726
512.351.1801
512.870.9427 (FAX)
tchen@tchenarch.com
website:www.tchenarch.com

GENERAL NOTES:
1. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE, AND NATIONAL CODES AND ORDINANCE AND ALL AUTHORITIES HAVING JURISDICTION OVER THE PROJECT. THIS PROJECT SHALL COMPLY WITH 2011 NEC, 2003 INTERNATIONAL FIRE CODE, 2009 INTERNATIONAL ENERGY CONSERVATION CODE AND 2012 IBC.
2. TCHEN ARCHITECTS SHALL NOT BE RESPONSIBLE OR LIABLE FOR ANY BUILDING CODE VIOLATIONS THAT ARISE FROM THE CONTRACTOR'S FAILURE TO FOLLOW THE LAWS OR FOR SAFETY, PRECAUTIONS AND PROGRAMS RELATED TO THIS PROJECT. PERSONS SHALL BE LIABLE OR RESPONSIBLE FOR THE QUALITY OF WORKMANSHIP PERFORMED BY THEIR EMPLOYEES.
3. DO NOT SCALE DRAWINGS FOR ANY DIMENSIONS. CONTACT ARCHITECT IMMEDIATELY IF DISCREPANCIES ARE FOUND IN THE CONTRACT DOCUMENTS OR CONDITIONS.
4. USE ONLY PLANS THAT HAVE BEEN RELEASED AND APPROVED BY CITY OF SAN ANTONIO FOR CONSTRUCTION

ISSUE DATE	01.10.2013
DRAWN BY	
CHECKED BY	
SCALE	AS SHOWN
REVISIONS	

I hereby certify that I am a licensed architect in the State of Texas, and that these plans have been prepared by me, or under my direct supervision, and to the best of my knowledge conform to applicable state and the local building codes.

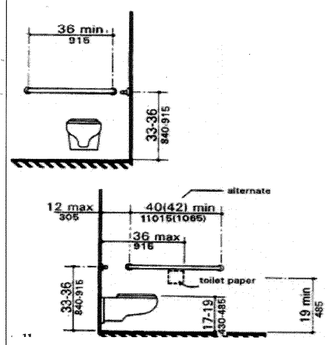
REGISTERED ARCHITECT STEVEN T. CHEN 7911 STATE OF TEXAS

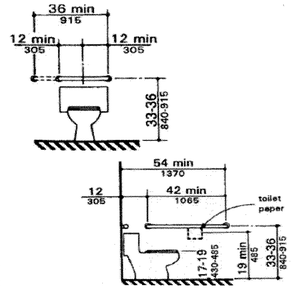
LICENSE NUMBER 7911
EXP. DATE 1.31.2014

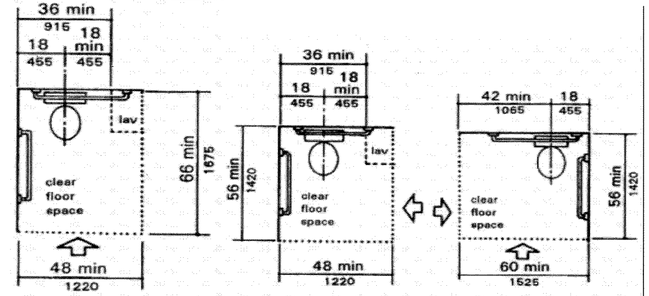
PROJECT NAME: NORTH LOOP RETAIL CENTER
PROJECT ADDRESS: 226 & 238 TEXAS LOOP 1604 SAN ANTONIO, TX 78232
SHEET TITLE: COVER SHEET

SHEET NUMBER
A-0.0

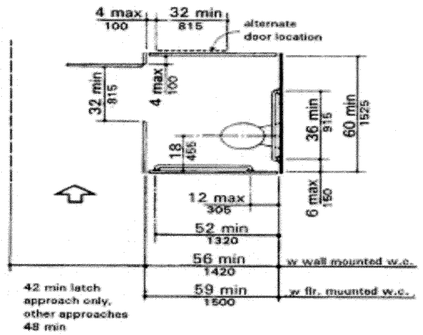
CITY OF SAN ANTONIO PLAN REVIEW DEVELOPMENT SERVICES DEPT

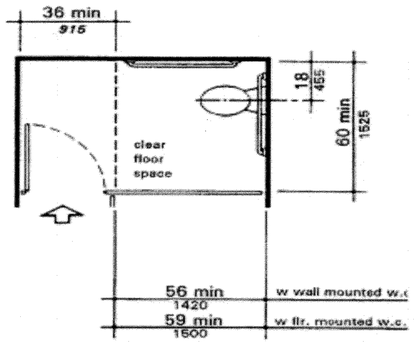




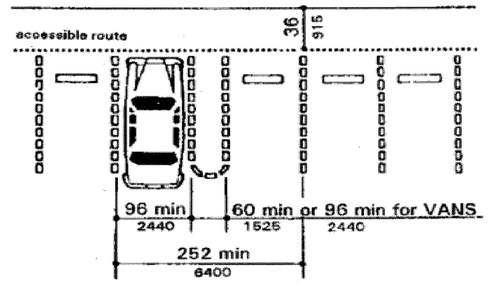


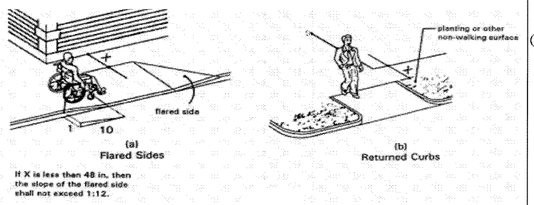
Floor Space at Water Closets



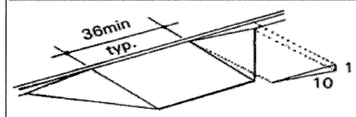


(a) Standard Stall





Curb Ramps



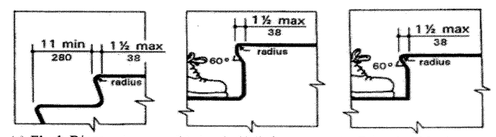
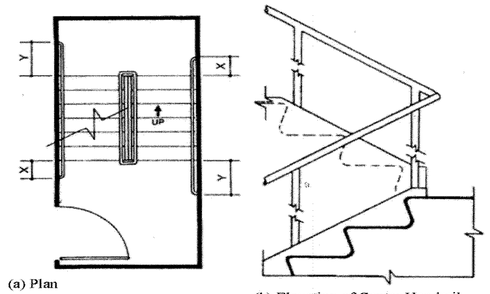


Fig. 18 Useable Tread Width and Examples of Acceptable Nosings



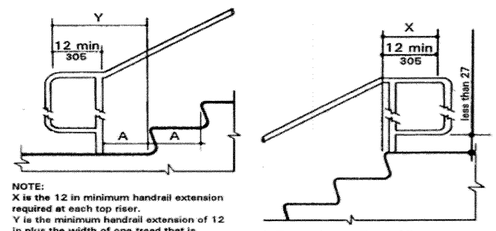
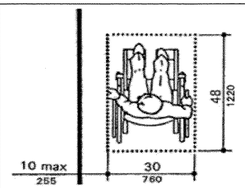
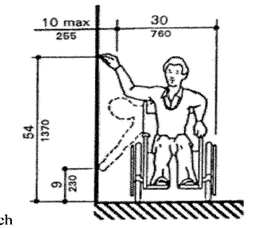
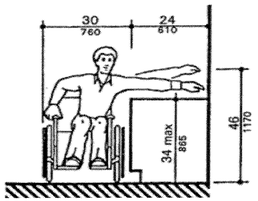


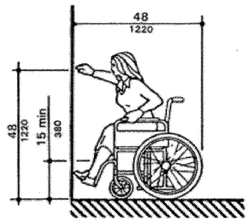
Fig. 19 Stair Handrails



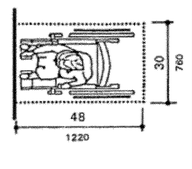


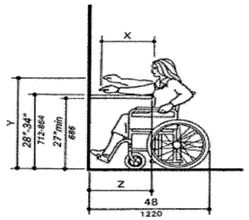
(a) Clear Floor Space Parallel Approach

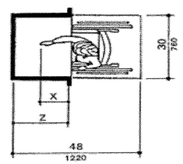




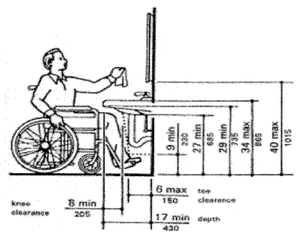
(a) High Forward Reach Limit



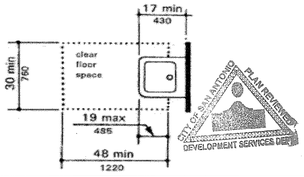


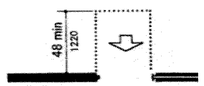


NOTE: x shall be ≤ 25 in(635 mm); z shall be ≥ x. When x < 20 in(510 mm), then y shall be 48 in(1220 mm) maximum. When x is 20 to 25 in(510 to 635 mm), then y shall be 44 in(1120 mm) maximum.

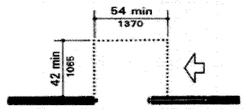


NOTE: equipment permitted in shaded area

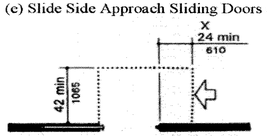




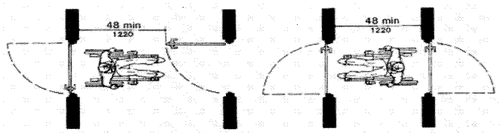
(c) Latch Side Approaches - Swinging Doors
(d) Front Approach Sliding Doors and Folding Doors

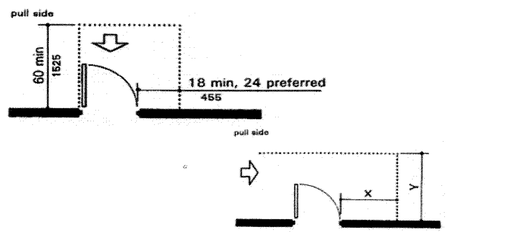


(e) Slide Side Approach Sliding Doors and Folding Doors

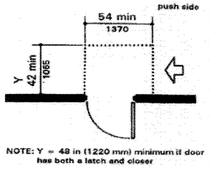


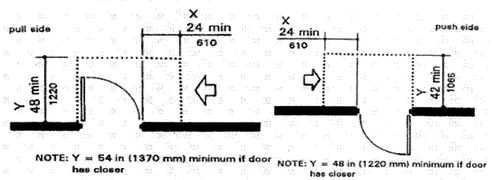
(f) Latch Side Approach - Sliding Doors and Folding Doors



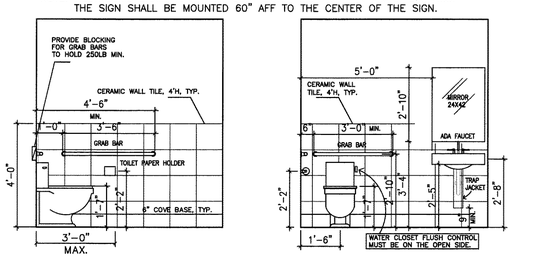


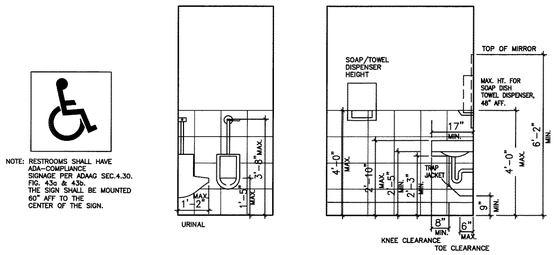
(a) Front Approaches Swinging Doors





NOTE: RESTROOMS SHALL HAVE ADA–COMPLIANCE SIGNAGE PER ADAAG SEC.4.30. THE SIGN SHALL BE MOUNTED 60" AFF TO THE CENTER OF THE SIGN.





PLUMBING FIXTURE MOUNTING STANDARDS

Tchen Architects
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AUSTIN, TEXAS 78726
512.351.1801
512.870.9427 (FAX)
tchen@tchenarch.com
website:www.tchenarch.com

GENERAL NOTES:
1. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE, AND NATIONAL CODES AND ORDINANCE AND ALL AUTHORITIES HAVING JURISDICTION OVER THE WORK. THIS PROJECT SHALL COMPLY WITH 2011 NEC; 2009 INTERNATIONAL FIRE CODE; 2009 INTERNATIONAL ENERGY CONSERVATION CODE; AND 2009 IPC.
2. TCHEN ARCHITECTS SHALL NOT BE RESPONSIBLE OR LIABLE FOR ANY BUILDING CODE VIOLATIONS OR OMISSIONS IN THE CONSTRUCTION DOCUMENTS OR FOR SAFETY PRECAUTIONS AND PROGRAMS RELATED TO THIS PROJECT. NOR SHALL BE LIABLE OR RESPONSIBLE FOR THE QUALITY OF WORKMANSHIP OF THE CONTRACTOR.
3. DO NOT SCALE DRAWINGS FOR ANY DIMENSIONS. CONTACT ARCHITECT IMMEDIATELY IF DISCREPANCIES EXIST BETWEEN CONTRACT CONDITIONS.
4. USE ONLY PLANS THAT HAVE BEEN RED-STAMPED AND APPROVED BY CITY OF SAN ANTONIO FOR CONSTRUCTION.

ISSUE DATE 01.10.2013
DRAWN BY
CHECKED BY
SCALE AS SHOWN
REVISIONS

I hereby certify that I am a licensed architect in the State of Texas, and that these plans have been prepared by me, or under my direct supervision, and to the best of my knowledge conform to applicable state and the local building codes.

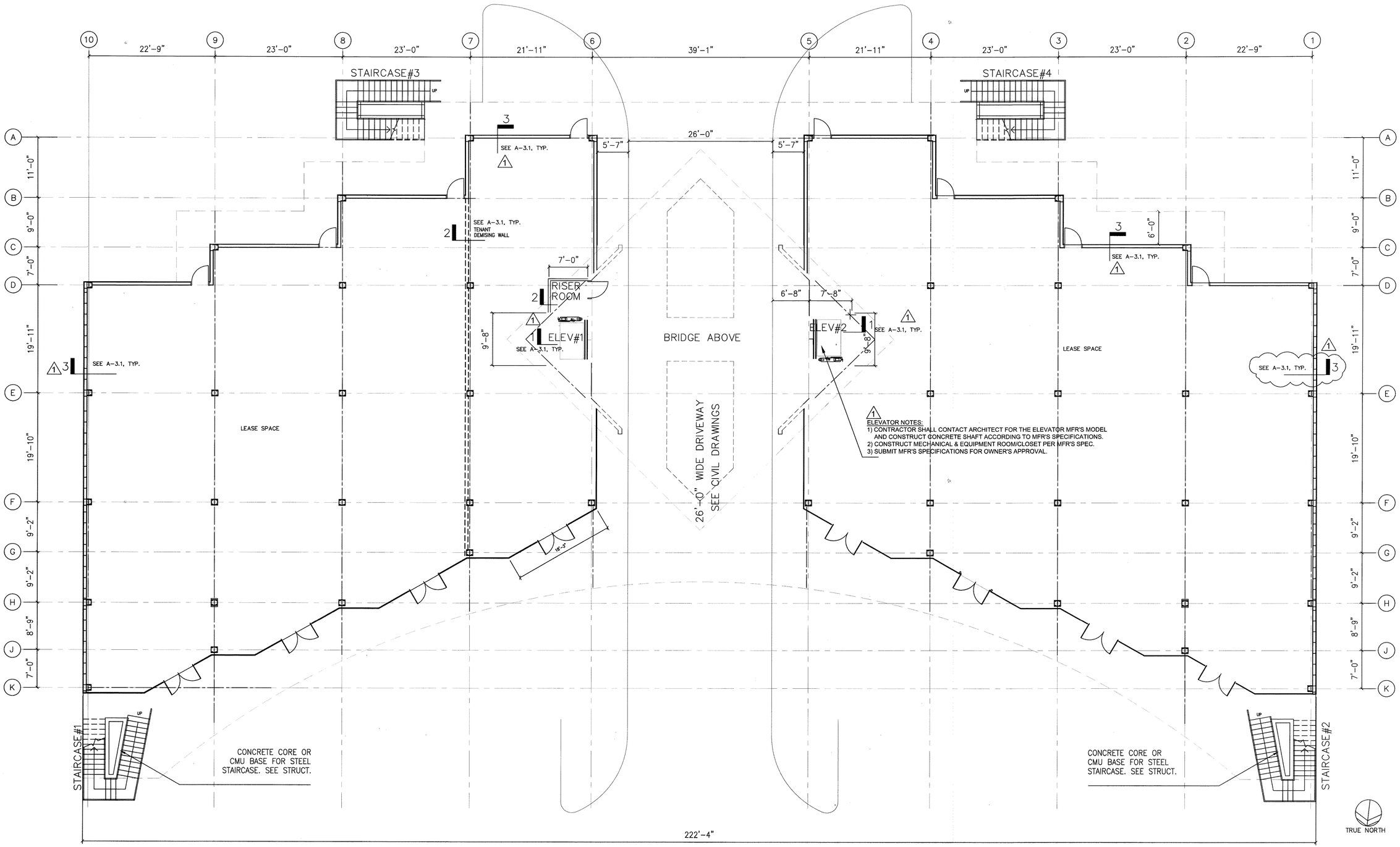
REGISTERED ARCHITECT JAMES A. TCHEN 1911 STATE OF TEXAS

LICENSE NUMBER 7911
EXP. DATE: 1.31.2014

PROJECT NAME: NORTH LOOP RETAIL CENTER
PROJECT ADDRESS: 226 & 238 TEXAS LOOP 1604 SAN ANTONIO, TX 78232
SHEET TITLE: ADA / TAS STANDARD DETAILS

SHEET NUMBER
A-0.1

PLAN REVIEWED CITY OF SAN ANTONIO DEVELOPMENT SERVICES DEPT



1 FIRST FLOOR PLAN 1/8" =1 '-0"

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GENERAL NOTES:
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2. TCHEN ARCHITECTS SHALL NOT BE RESPONSIBLE OR LIABLE FOR ANY BUILDING CODE, STRUCTURAL, MECHANICAL OR ELECTRICAL ENGINEERING VIOLATIONS OR FOR SAFETY PRECAUTIONS AND PROGRAMS RELATED TO THIS PROJECT. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE QUALITY OF WORKMANSHIP PERFORMED ON THE PROJECT.
3. DO NOT SCALE DRAWINGS FOR ANY DIMENSIONS. CONTACT ARCHITECT IMMEDIATELY IF DISCREPANCIES ARE FOUND IN THE CONSTRUCTION DOCUMENTS.
4. USE ONLY PLANS THAT HAVE BEEN RED-STAMPED AND APPROVED BY CITY OF SAN ANTONIO FOR CONSTRUCTION

ISSUE DATE 01.10.2013
DRAWN BY
CHECKED BY
SCALE AS SHOWN
REVISIONS
1 03.29.2013

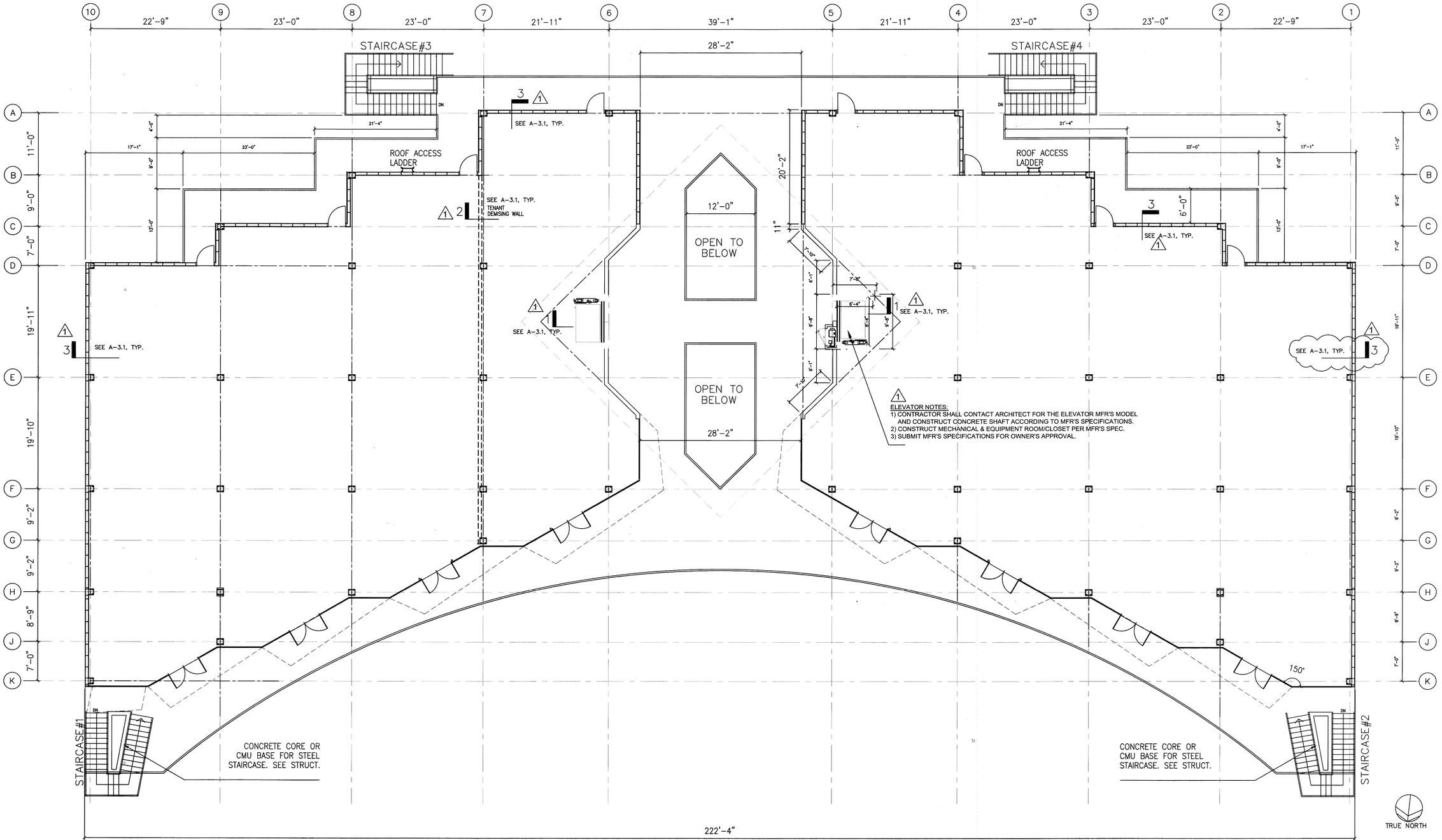
I hereby certify that I am a licensed architect in the State of Texas, and that these plans have been prepared by me, or under my direct supervision, and to the best of my knowledge conform to applicable state and the local building codes.

LICENSE NUMBER 7911
EXP. DATE: 1.31.2014

PROJECT NAME: NORTH LOOP RETAIL CENTER
PROJECT ADDRESS: 226 & 238 TEXAS LOOP 1604 SAN ANTONIO, TX 78232
SHEET TITLE: FIRST FLOOR PLAN

SHEET NUMBER
A-1.0

CITY OF SAN ANTONIO PLAN REVIEWED DEVELOPMENT SERVICES DEPT



ELEVATOR NOTES:
1) CONTRACTOR SHALL CONTACT ARCHITECT FOR THE ELEVATOR MFR'S MODEL AND CONSTRUCT CONCRETE SHAFT ACCORDING TO MFR'S SPECIFICATIONS.
2) CONSTRUCT MECHANICAL & EQUIPMENT ROOM/CLOSET PER MFR'S SPEC.
3) SUBMIT MFR'S SPECIFICATIONS FOR OWNER'S APPROVAL.

TRUE NORTH

CITY OF SAN ANTONIO PLAN REVIEWER DEVELOPMENT SERVICES DEPT

1 SECOND FLOOR PLAN 1/8" =1 '-0"

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GENERAL NOTES:
1. WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE, AND NATIONAL CODES AND ORDINANCE AND ALL AUTHORITIES HAVING JURISDICTION OVER THE PROJECT. INCLUDING BUT NOT LIMITED TO NEC, 2003 INTERNATIONAL FIRE CODE, 2003 INTERNATIONAL ENERGY CONSERVATION CODE AND ADA REQUIREMENTS.
2. TCHEN ARCHITECTS SHALL NOT BE RESPONSIBLE OR LIABLE FOR ANY BUILDING CODES, STANDARDS, ORDINANCES, REGULATIONS, ETC. WHICH ARE ENFORCED BY OR FOR SAFETY, PRECAUTIONS AND PROGRAMS RELATED TO THIS PROJECT. NOR SHALL BE LIABLE OR RESPONSIBLE FOR THE QUALITY OF WORKMANSHIP OF THE CONTRACTOR OR SUBCONTRACTORS.
3. DO NOT SCALE DRAWINGS FOR ANY DIMENSIONS. CONTACT ARCHITECT FOR ANY DIMENSIONAL CLARIFICATIONS NEEDED. VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS.
4. USE ONLY PLANS THAT HAVE BEEN RED-STAMPED AND APPROVED BY CITY OF SAN ANTONIO FOR CONSTRUCTION.

ISSUE DATE	01.10.2013
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CHECKED BY	
SCALE	AS SHOWN
REVISIONS	
1	03.29.2013

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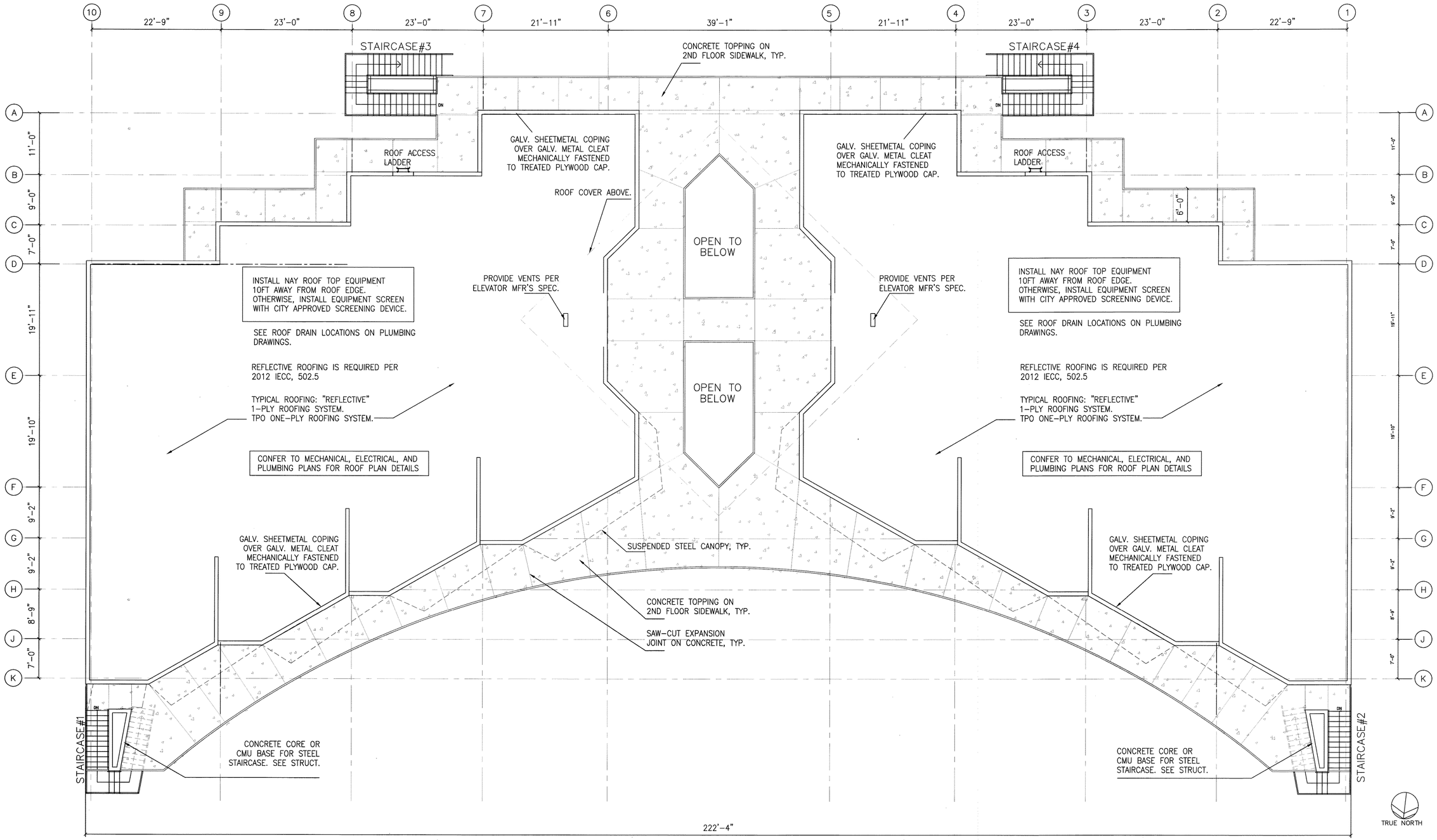
REGISTERED ARCHITECT TIMOTHY T. CHEN 7911 STATE OF TEXAS

LICENSE NUMBER 7911
EXP. DATE: 1.31.2014

PROJECT NAME: NORTH LOOP RETAIL CENTER
PROJECT ADDRESS: 226 & 238 TEXAS LOOP 1604 SAN ANTONIO, TX 78232
SHEET TITLE: SECOND FLOOR PLAN

SHEET NUMBER

A-1.1



1 ROOF PLAN

1/8" =1 '-0"

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2. TCHEN ARCHITECTS SHALL NOT BE RESPONSIBLE OR LIABLE FOR ANY BUILDING CODE VIOLATIONS OR OMISSIONS IN THE CONSTRUCTION DOCUMENTS, BUILDING OR FOR SAFETY, PRECAUTIONS AND PROGRAMS RELATED TO THIS PROJECT. NOR SHALL BE LIABLE FOR RESPONSIBLE FOR THE QUALITY OF WORKMANSHIP OF THE CONTRACTOR AND SUBCONTRACTORS.
3. DO NOT SCALE DRAWINGS FOR ANY DIMENSIONS. CONTACT ARCHITECT IMMEDIATELY IF ANY DISCREPANCIES ARE FOUND IN THE CONSTRUCTION DOCUMENTS.
4. USE ONLY PLANS THAT HAVE BEEN RED-STAMPED AND APPROVED BY CITY OF SAN ANTONIO FOR CONSTRUCTION

ISSUE DATE 01.10.2013
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CHECKED BY
SCALE AS SHOWN
REVISIONS

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REGISTERED ARCHITECT TIMOTHY T. CHEN 7911 STATE OF TEXAS

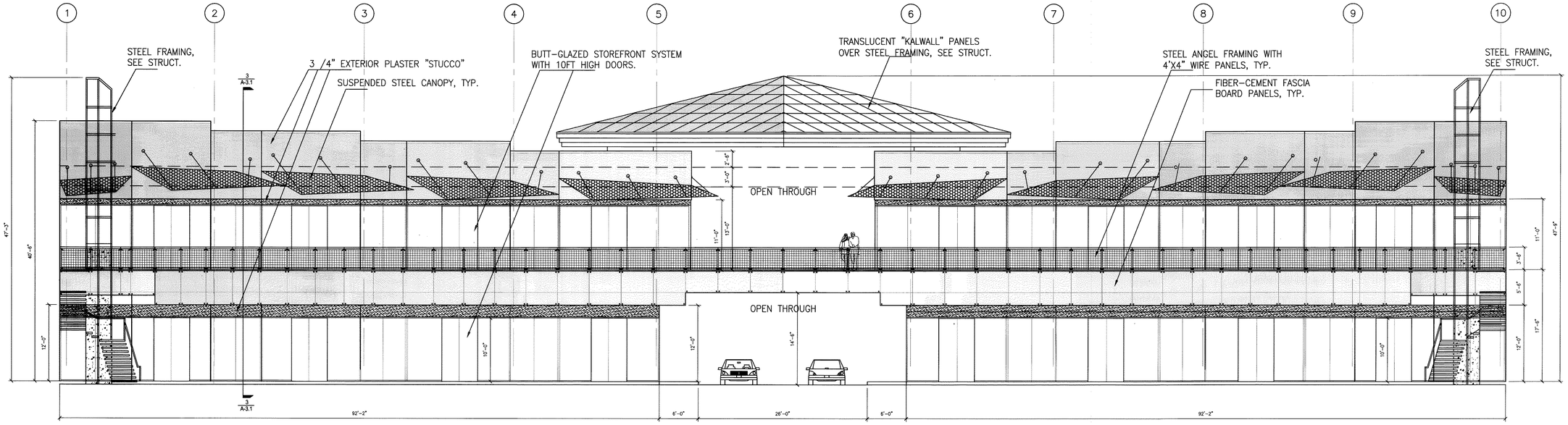
LICENSE NUMBER 7911
EXP. DATE: 1.31.2014

PROJECT NAME: NORTH LOOP RETAIL CENTER
PROJECT ADDRESS: 226 & 238 TEXAS LOOP 1604 SAN ANTONIO, TX 78232
SHEET TITLE: ROOF PLAN

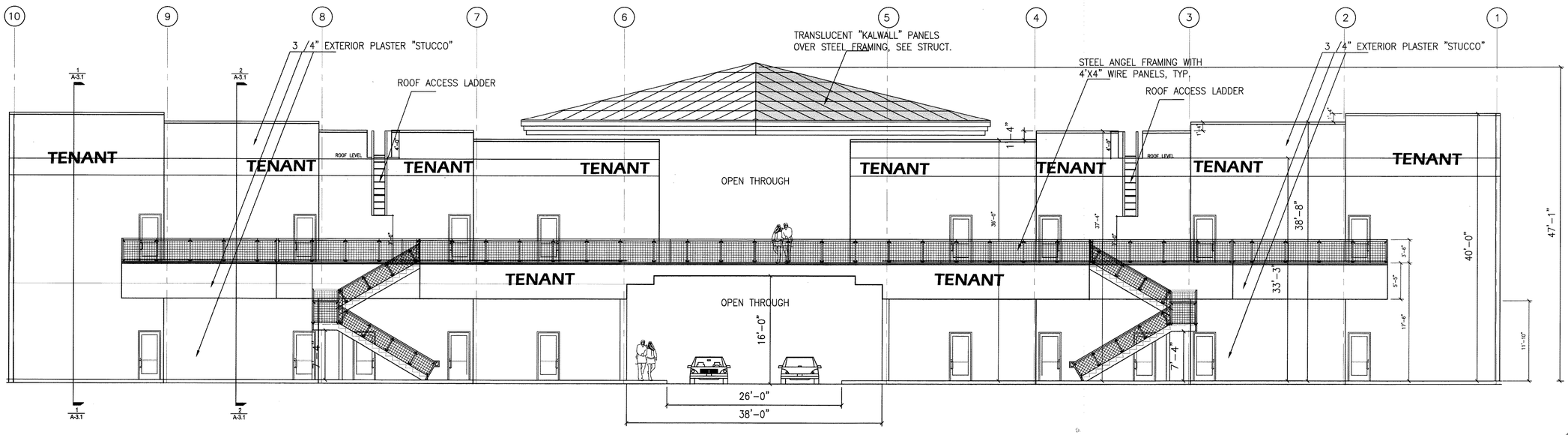
SHEET NUMBER

A-1.2

CITY OF SAN ANTONIO PLAN REVIEWED FOR DEVELOPMENT SERV.



1 NORTH ELEVATION 1/8" =1 '-0"



2 SOUTH ELEVATION 1/8" =1 '-0"

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2. TCHEN ARCHITECTS SHALL NOT BE RESPONSIBLE OR LIABLE FOR ANY BUILDING CODE VIOLATIONS THAT ARISE FROM THE CONTRACTOR'S FAILURE TO BUILD FROM THESE PLANS OR FOR SAFETY, PRECAUTIONS AND PROGRAMS RELATED TO THIS PROJECT.
3. DO NOT SCALE DRAWINGS FOR ANY DIMENSIONS. CONTACT ARCHITECT IMMEDIATELY IF DIMENSIONS AND CONDITIONS SHOWN ON THE DRAWINGS ARE NOT PERFORMED ON THE PROJECT.
4. USE ONLY PLANS THAT HAVE BEEN RED STAMPED AND APPROVED BY CITY OF SAN ANTONIO CONSTRUCTION.

ISSUE DATE 01.10.2013
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CHECKED BY
SCALE AS SHOWN
REVISIONS

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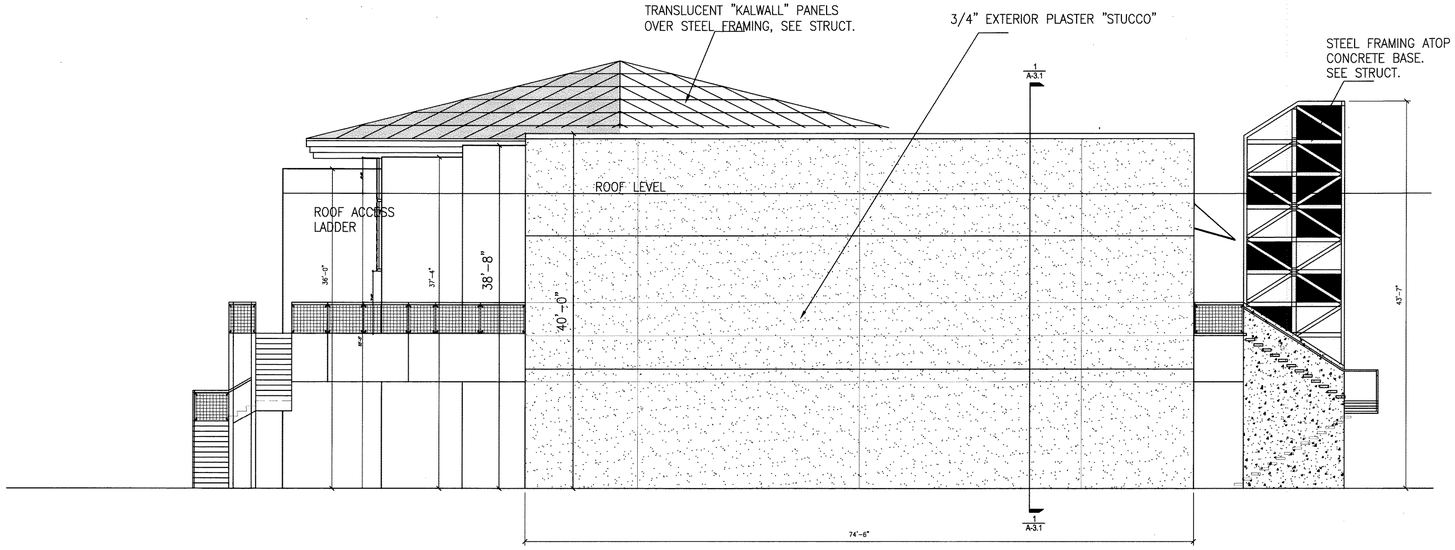
REGISTERED ARCHITECT ANTHONY F. CHEN 7911 STATE OF TEXAS

LICENSE NUMBER 7911
EXP. DATE: 1.31.2014

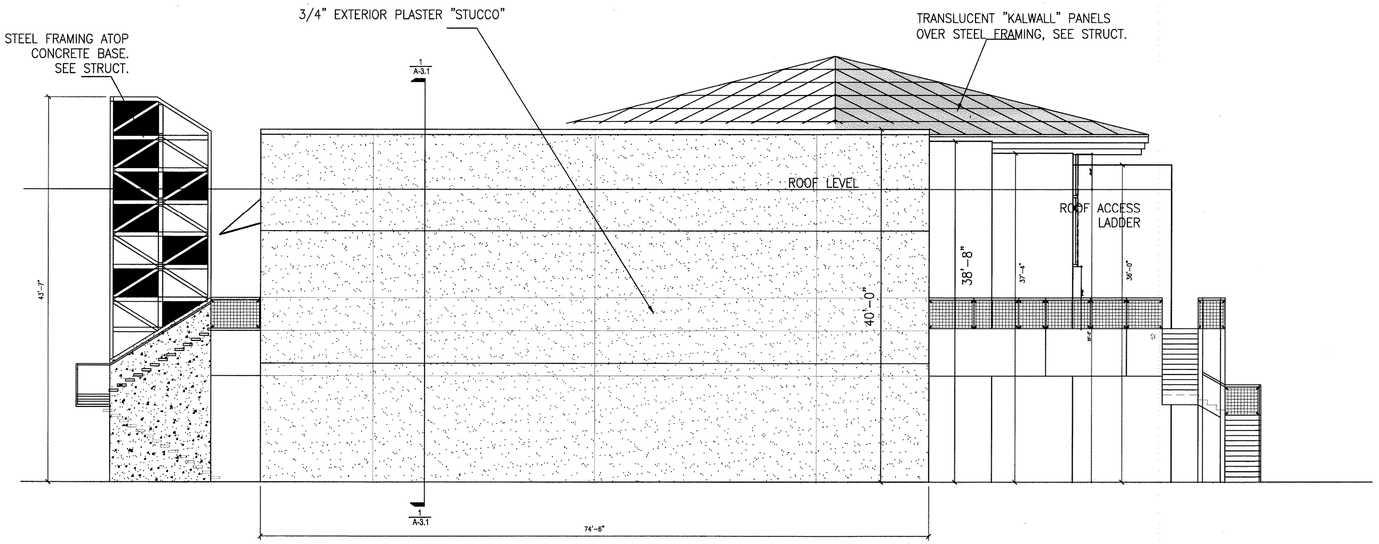
PROJECT NAME: NORTH LOOP RETAIL CENTER
PROJECT ADDRESS: 226 & 238 TEXAS LOOP 1604 SAN ANTONIO, TX 78232
SHEET TITLE: ELEVATIONS

SHEET NUMBER
A-2.0

CITY OF SAN ANTONIO PLAN REVIEWER DEVELOPMENT SERVICES DEPT



1 EAST ELEVATION



2 WEST ELEVATION

1/8" =1 '-0"

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2. TCHEN ARCHITECTS SHALL NOT BE RESPONSIBLE OR LIABLE FOR ANY BUILDING CODE VIOLATIONS OR OMISSIONS THAT ARE THE RESPONSIBILITY OF THE CONTRACTOR OR FOR SAFETY PRECAUTIONS AND PROGRAMS RELATED TO THIS PROJECT. NOR SHALL BE LIABLE OR RESPONSIBLE FOR THE QUALITY OF WORKMANSHIP PERFORMED BY THE CONTRACTOR.
3. DO NOT SCALE DRAWINGS FOR ANY DIMENSIONS. CONTACT ARCHITECT IMMEDIATELY FOR ANY DISCREPANCIES OR FIELD CONDITIONS THAT HAVE NOT BEEN ADDRESSED IN THE CONSTRUCTION DOCUMENTS.
4. USE ONLY PLANS THAT HAVE BEEN RED-STAMPED AND APPROVED BY CITY OF SAN ANTONIO FOR CONSTRUCTION.

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REGISTERED ARCHITECT
TIMOTHY T. CHEN
7911
STATE OF TEXAS

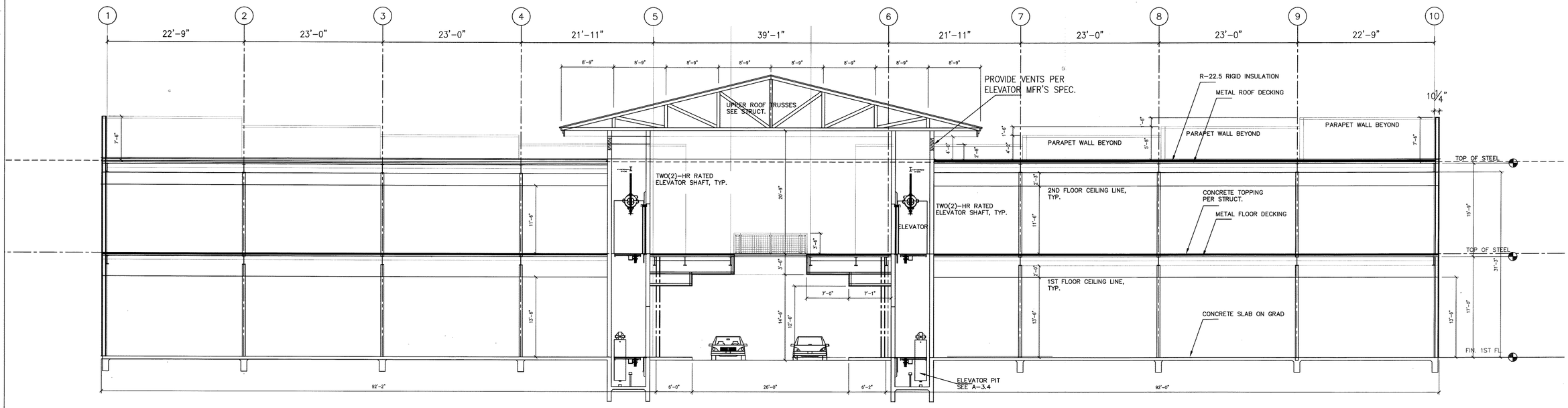
LICENSE NUMBER 7911
EXP. DATE: 1.31.2014

PROJECT NAME: NORTH LOOP RETAIL CENTER
PROJECT ADDRESS: 226 & 238 TEXAS LOOP 1604 SAN ANTONIO, TX 78232
SHEET TITLE: ELEVATIONS

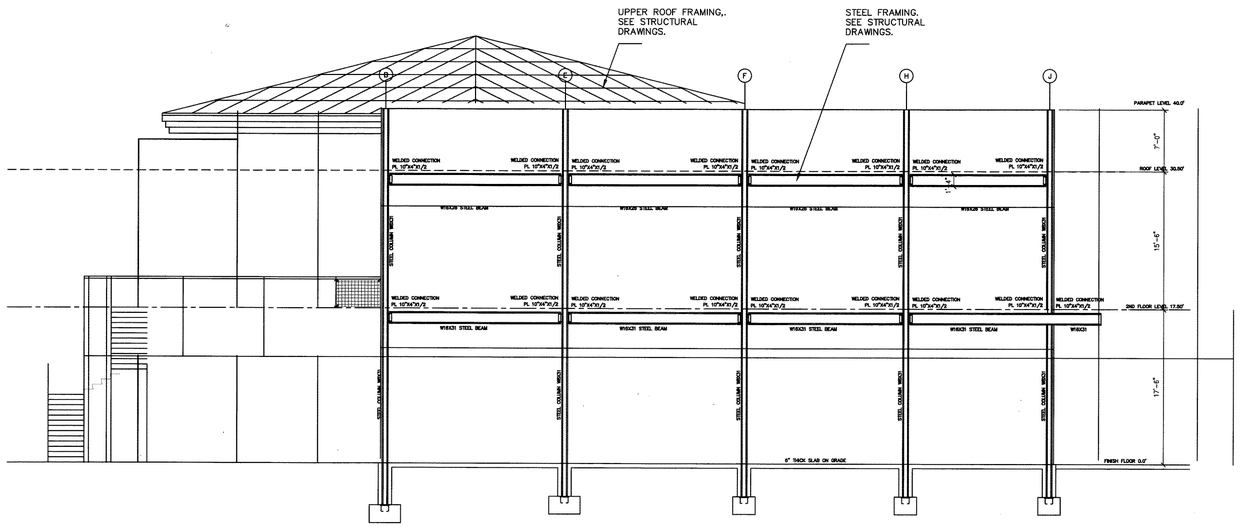
SHEET NUMBER

A-2.1

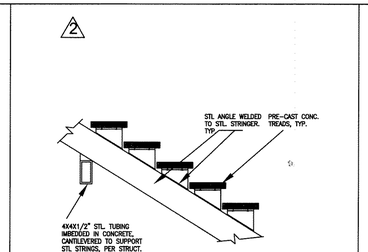
CITY OF SAN ANTONIO PLAN REVIEWED DEVELOPMENT SERVICES DEPT



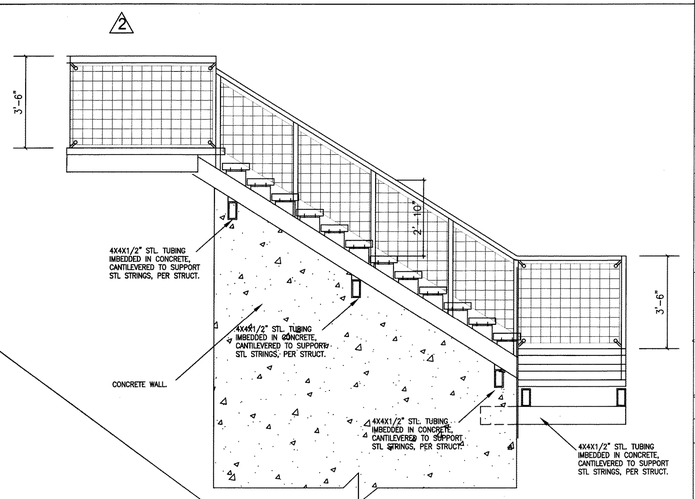
1 BUILDING LONGITUDINAL SECTION



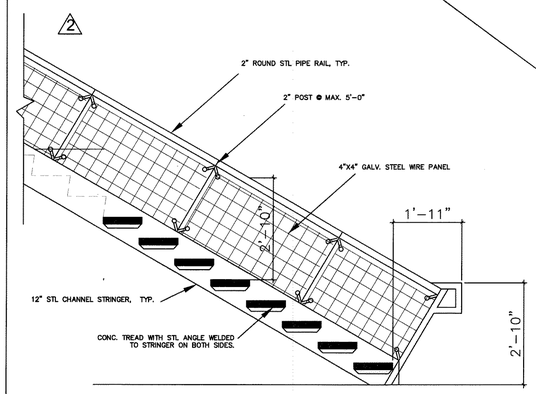
2 BUILDING CROSS SECTION 3/8" =1 '-0"



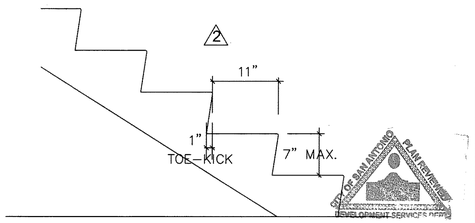
3 STAIRWAY #3, & #4 DETAIL 1/2" =1 '-0"



4 STAIRWAY #1, & #2 3/8" =1 '-0"



5 STAIRWAY #1, & #2 DETAIL 1/2" =1 '-0"



6 TYP. TREAD & RISER. 1/2" =1 '-0"

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2. TCHEN ARCHITECTS SHALL NOT BE RESPONSIBLE OR LIABLE FOR ANY BUILDING CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES NOR SHALL BE LIABLE OR RESPONSIBLE FOR ANY SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK. TCHEN ARCHITECTS SHALL NOT BE RESPONSIBLE FOR THE QUALITY OF WORKMANSHIP OF CONTRACTOR.
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ISSUE DATE	01.10.2013
DRAWN BY	
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SCALE	AS SHOWN
REVISIONS	
2	05.07.2013

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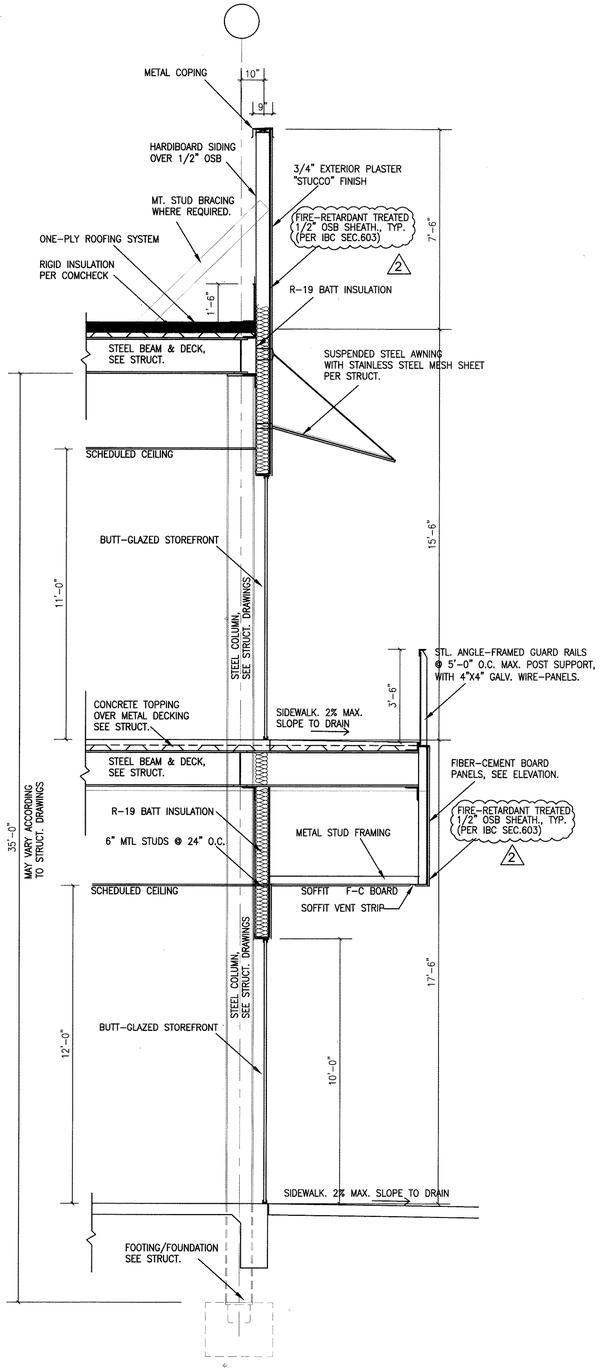
REGISTERED ARCHITECT ROBERT A. TCHEN JR. STATE OF TEXAS

LICENSE NUMBER 7911
EXP. DATE 1.31.2014

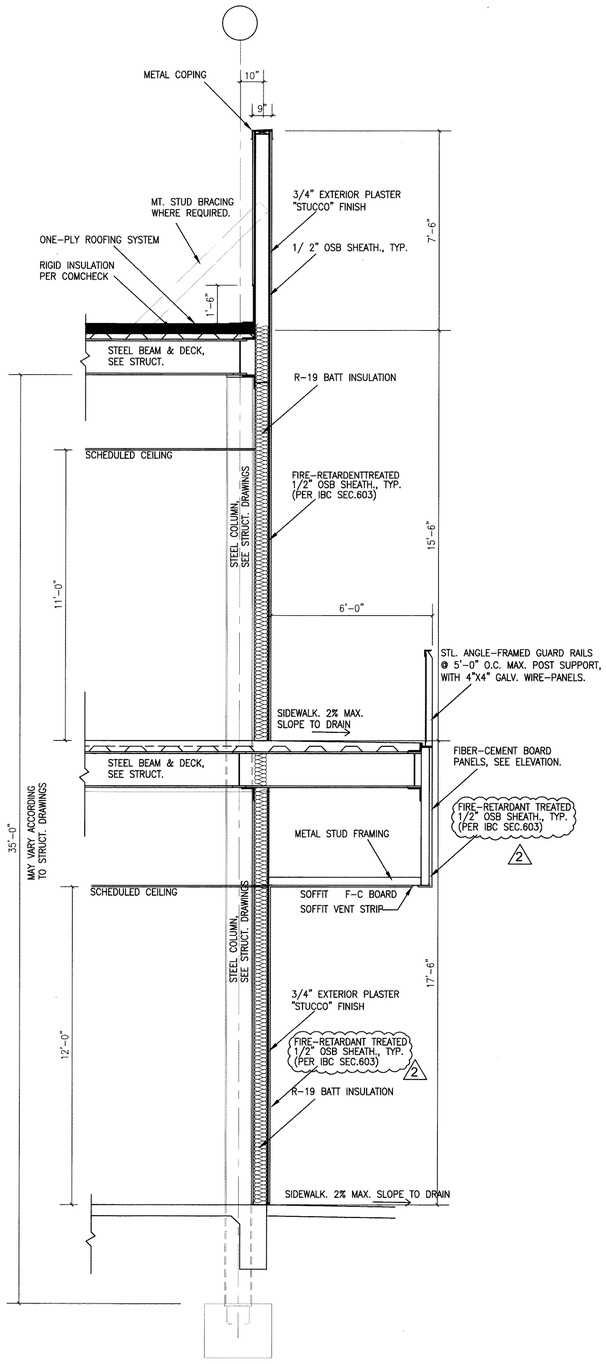
PROJECT NAME: NORTH LOOP RETAIL CENTER
PROJECT ADDRESS: 226 & 238 TEXAS LOOP 1604 SAN ANTONIO, TX 78232
SHEET TITLE: BUILDING SECTIONS

SHEET NUMBER
A-3.0

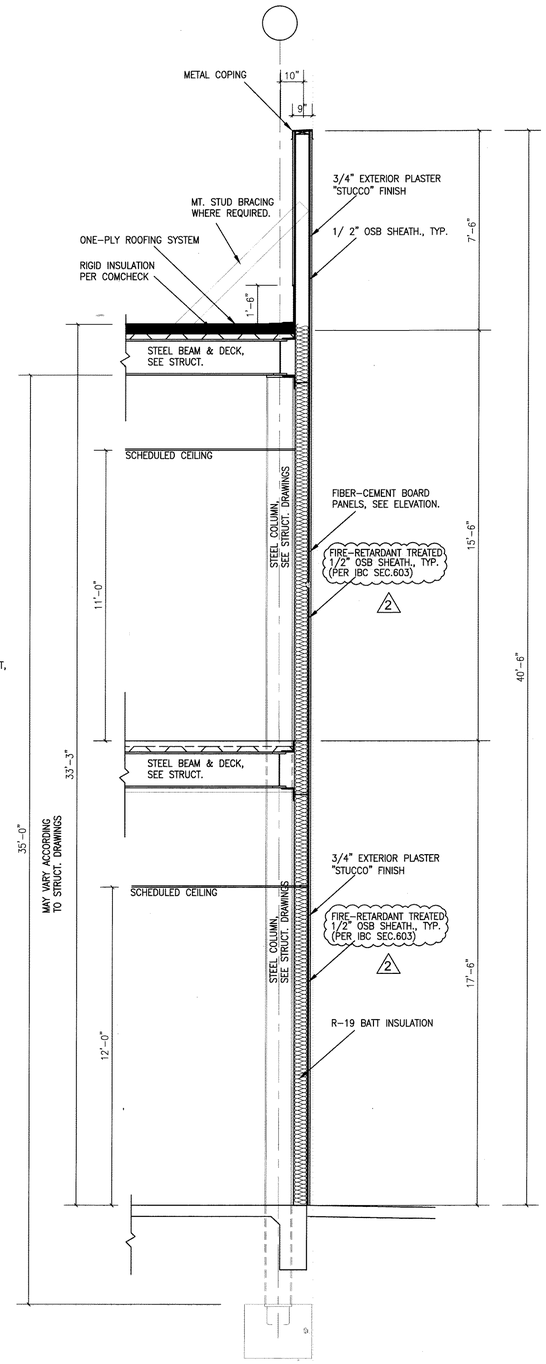
CITY OF SAN ANTONIO PLAN REVIEW DEVELOPMENT SERVICES



3 WALL SECTION -C



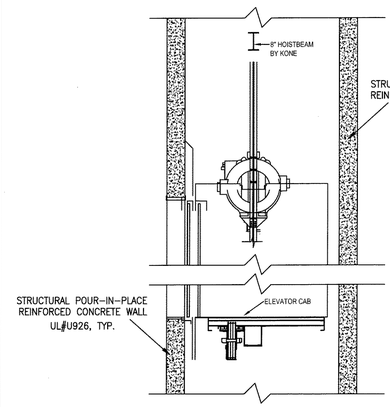
2 WALL SECTION -B



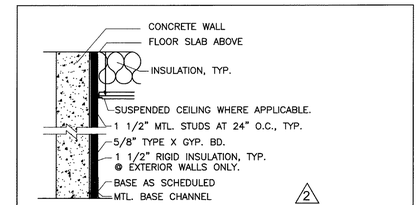
1 WALL SECTION -A

3/8" =1 '-0"

WALL SECTIONS

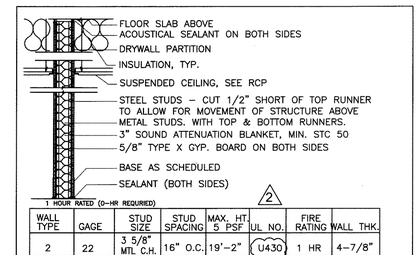


3 ELEVATOR SHAFT WALL 4-HR, UL#U926. 3



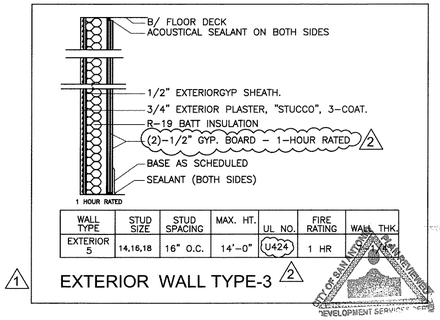
WALL TYPE	MATERIAL	UL NO.	FIRE RATING	WALL THK.
1	CONCRETE	U926	4 HR	6" MIN.

1 WALL TYPE-1 (ELEVATOR SHAFT WALL ONLY) (2-HOUR REQUIRED.)



WALL TYPE	GAGE	STUD SIZE	STUD SPACING	MAX. HT. 5 PSF	UL NO.	FIRE RATING	WALL THK.
2	22	3 5/8" MTL C.H.	16" O.C.	19'-2"	U430	1 HR	4-7/8"

1 PARTITION WALL TYPE-2 (DEMISING WALLS)



WALL TYPE	STUD SIZE	STUD SPACING	MAX. HT.	UL NO.	FIRE RATING	WALL THK.
EXTERIOR 5	14,16,18	16" O.C.	14'-0"	U424	1 HR	4-7/8"

1 EXTERIOR WALL TYPE-3 2

WALL TYPES 1

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website:www.tchenarch.com

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3 TCHEN ARCHITECTS SHALL NOT BE RESPONSIBLE FOR CONSTRUCTION MEANS OR METHODS, COORDINATION OF THE WORK OF THE CONTRACTOR OR ANY OTHER PERSONS PERFORMING ANY OF THE WORK, OR RESPONSIBLE FOR THE QUALITY OF WORKMANSHIP PERFORMED BY ANY PERSONS OR FIRMS.
4 DO NOT SCALE DRAWINGS FOR ANY DIMENSIONS, CONTACT ARCHITECT
5 ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE CONDITIONS
6 USE ONLY PLANS THAT HAVE BEEN RED-STAMPED AND APPROVED BY CITY OF SAN ANTONIO FOR CONSTRUCTION

ISSUE DATE	01.10.2013
DRAWN BY	
CHECKED BY	
SCALE	AS SHOWN
REVISIONS	
1	03.29.2013
2	05.07.2013
3	05.16.2013

I hereby certify that I am a licensed architect in the State of Texas, and that these plans have been prepared by me, or under my direct supervision, and to the best of my knowledge conform to applicable state and the local building codes.

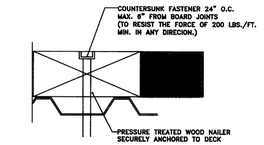
REGISTERED ARCHITECT JAMES M. TCHEN 7911 STATE OF TEXAS

LICENSE NUMBER 7911
EXP. DATE: 1.31.2014

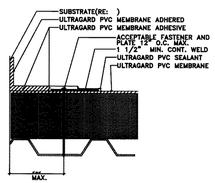
PROJECT NAME: NORTH LOOP RETAIL CENTER
PROJECT ADDRESS: 226 & 238 TEXAS LOOP 1604 SAN ANTONIO, TX 78232
SHEET TITLE: WALL SECTIONS

SHEET NUMBER

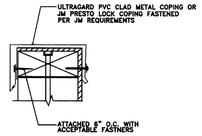
A-3.1



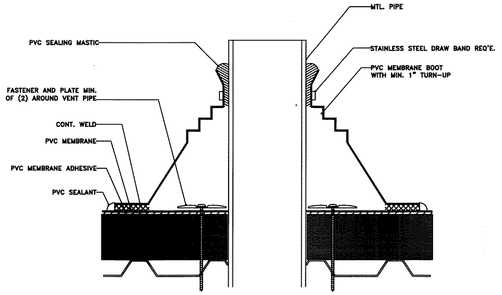
NOTES:
1. SUBSTRATE/STRUCTURE TO WHICH NAILER IS ATTACHED MUST BE ABLE TO RESIST A FORCE OF 200 LBS./FT. MINIMUM IN ALL DIRECTIONS.



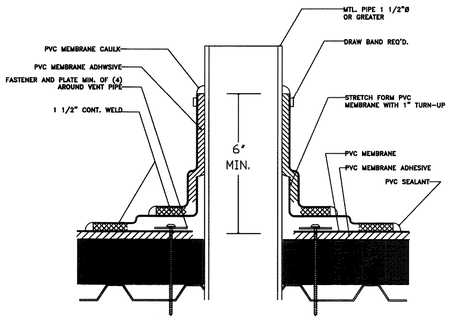
NOTES:
1. ULTRAGARD PVC SEALANT IS REQUIRED ON ALL CUT OR NON-ENCAPSULATED EDGES OF REINFORCED MEMBRANE.

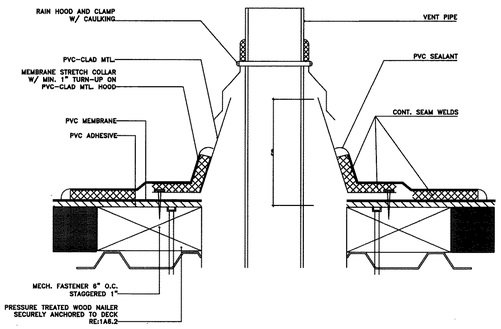




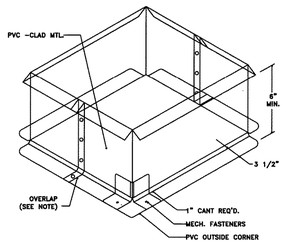


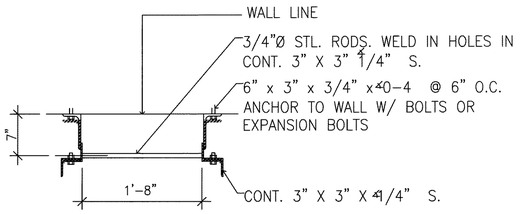
NOTES:
1. UNIVERSAL STEP BOOT TO ACCOMMODATE PIPE SIZES FROM 1" TO 6"
2. PRE-MOLDED VENT PIPE BOOT MUST NOT BE CUT VERTICALLY TO BE INSTALLED.
3. WHEN PRE-MOLDED VENT PIPE BOOT CANNOT BE INSTALLED, USE FIELD FABRICATED VENT PIPE FLASHING DETAIL(RE:2A8.6)



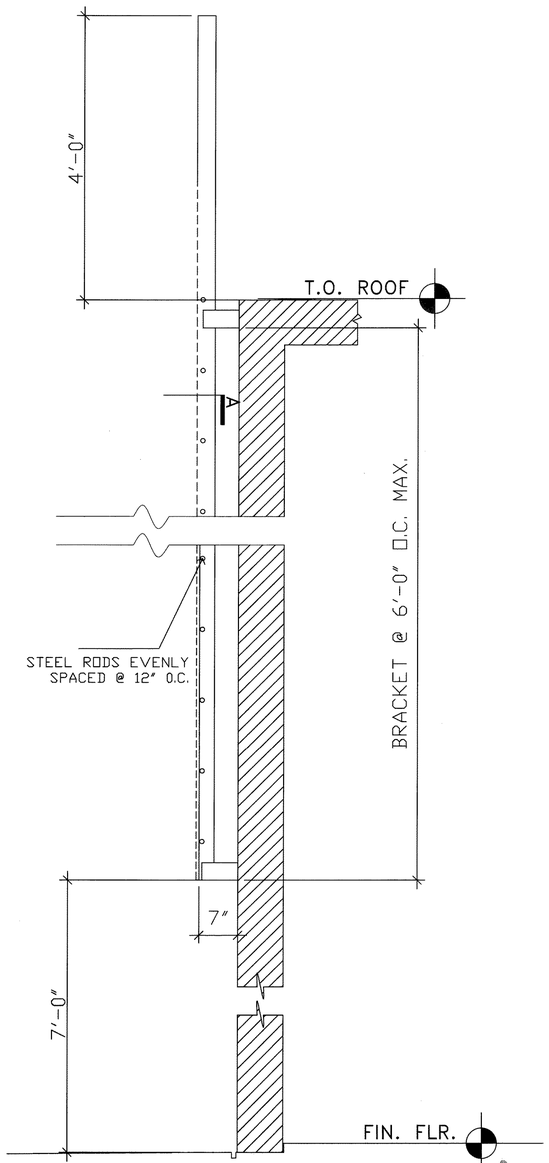


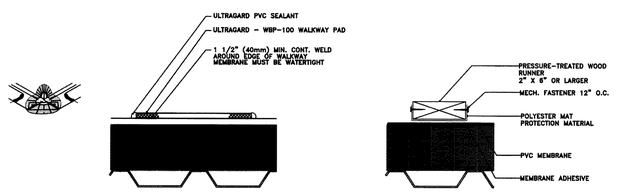
NOTES:
1. SOLVENT WELD STRETCH COLLAR
2. IF PENETRATION IS GREATER THAN 150 F (65 C), CONTACT THE ARCHITECT

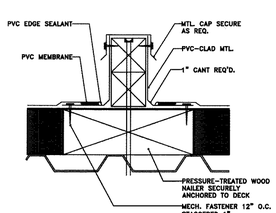


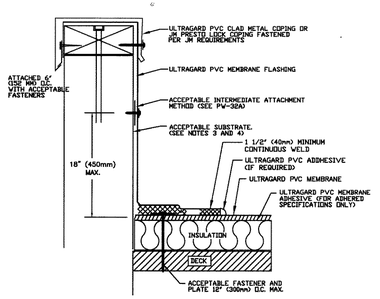


PLAN

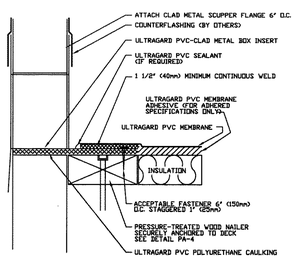




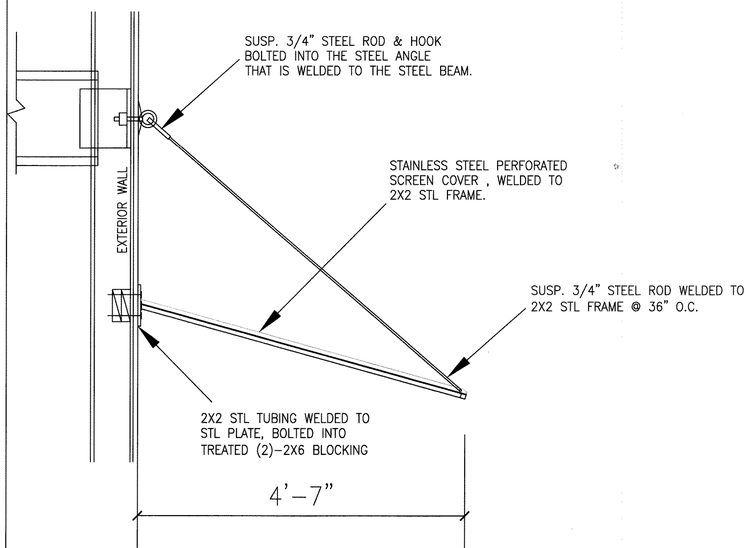




NOTES:
1. DETAILS TO BE USED IN CONJUNCTION WITH GUIDE SPECIFICATIONS CONTAINING REQUIREMENTS FOR NAILERS, INSULATION, SLIPSHEETS, ETC.
2. ULTRAGARD PVC SEALANT IS REQUIRED ON ALL CUT OR NON-ENCAPSULATED EDGES OF REINFORCED MEMBRANE. THIS INCLUDES FACTORY CUT MEMBRANE.
3. IN NEW CONSTRUCTION ACCEPTABLE SUBSTRATES INCLUDE EXTERIOR GRADE PLYWOOD, POURED OR PRECAST CONCRETE, CEMENT BLOCK OR MASONRY WALLS.
4. ON REROOFING PROJECTS AN ACCEPTABLE ASPHALT BARRIER MUST BE INSTALLED OVER THE EXISTING FLASHINGS TO FULLY DIVORCE THE ULTRAGARD PVC FLASHING MEMBRANE FROM ANY INCOMPATIBLE MATERIALS.



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3. ATTACH SCUPPER FLANGES 6" (152 mm) O.C.



2

2 ONE-PLY ROOFING SYSTEM DETAILS N.T.S.

3 STEEL CANOPY DETAIL (NON-COMBUSTIBLE) 1"=1'-0"

1 ROOF ACCESS LADDER DETAIL N.T.S.

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3. DO NOT SCALE DRAWINGS FOR ANY DIMENSIONS, CONTACT ARCHITECT IMMEDIATELY IF DISCREPANCIES ARE FOUND IN THE PLANS OR FIELD CONDITIONS.
4. USE ONLY PLANS THAT HAVE BEEN REG'D STAMPED AND APPROVED BY CITY OF SAN ANTONIO FOR CONSTRUCTION.

ISSUE DATE	01.10.2013
DRAWN BY	
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SCALE	AS SHOWN
REVISIONS	
2	05.07.2013

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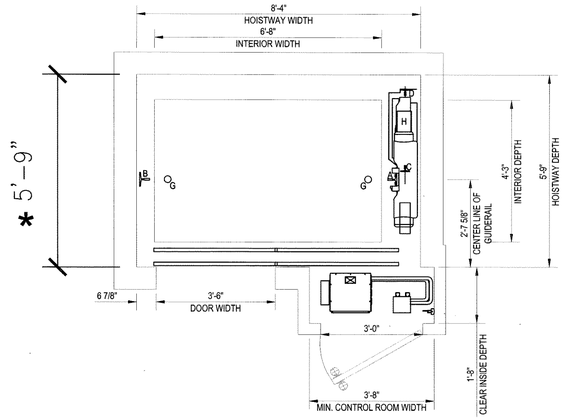
REGISTERED ARCHITECT CHRISTOPHER A. CHEN STATE OF TEXAS

LICENSE NUMBER 7911
EXP. DATE: 1.31.2014

PROJECT NAME: NORTH LOOP RETAIL CENTER
PROJECT ADDRESS: 226 & 238 TEXAS LOOP 1604 SAN ANTONIO, TX 78232
SHEET TITLE: DETAILS

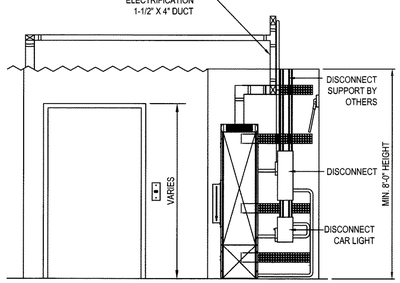
SHEET NUMBER
A-3.2

CITY OF SAN ANTONIO PLAN REVIEWED DEVELOPMENT SERVICES DEPT



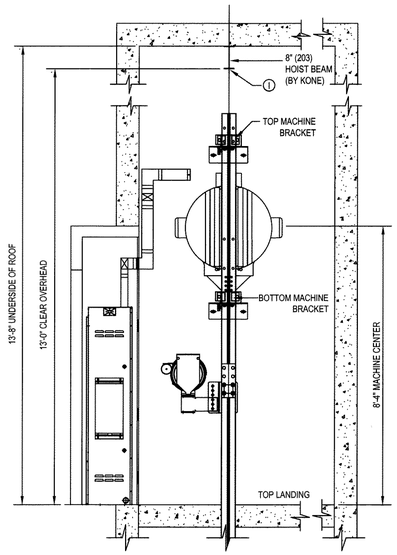
1 * ELEVATOR NOTES:

1) CONTRACTOR SHALL CONTACT ARCHITECT FOR THE ELEVATOR MFR'S MODEL AND CONSTRUCT CONCRETE SHAFT ACCORDING TO MFR'S SPECIFICATIONS.
2) CONSTRUCT MECHANICAL & EQUIPMENT ROOM/CLOSET PER MFR'S SPEC.
3) SUBMIT MFR'S SPECIFICATIONS FOR OWNER'S APPROVAL.



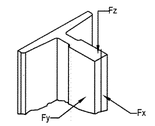
Note: For Duplex, see plan view.

RIGHT HAND CONTROL ROOM @ TOP LANDING ONLY



ELEVATION IN HOISTWAY LOOKING AT MACHINE SECTION A-A

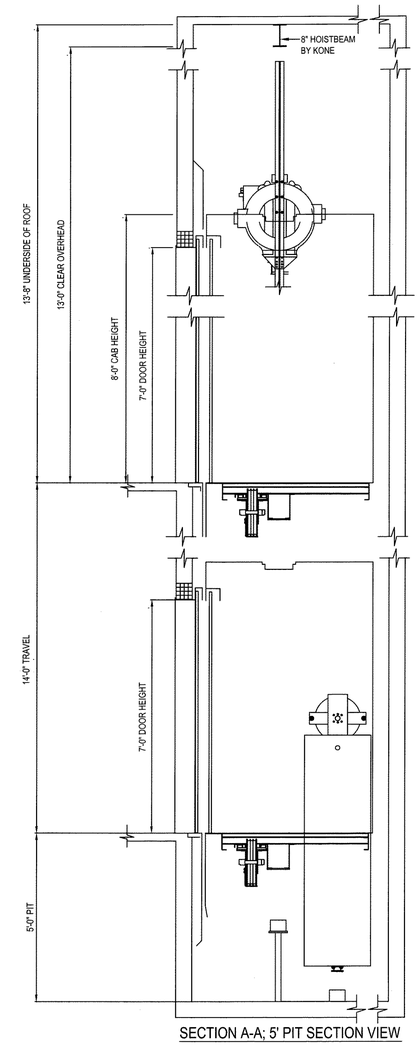
REACTION LOADS	Fx	Fy	Fz
A) CAR RAIL MACHINE SIDE	214	152	10895
B) CAR RAIL OTHER SIDE	214	152	7485
C) CWT RAIL MACHINE SIDE	n/a	n/a	0
D) CWT RAIL WALL SIDE	n/a	n/a	2708
G) CAR BUFFER LOAD	n/a	n/a	10041
H) CWT BUFFER LOAD	n/a	n/a	12945
I) HOISTBEAM	n/a	n/a	5300



ADDITIONAL REACTIONS FOR MACHINE BRACKETS				
2500#	Bottom		Top	
None	X	Y	X	Y
Static	450	-250	-450	250
Dynamic	375	-250	-375	250
Total	825	-500	-825	500
Seismic - 2				
Plus X	125	25	-125	200
Minus X	125	-150	-125	-75
Plus Y	200	-75	25	75
Minus Y	25	-75	-250	75
Seismic - 3 or 4				
Plus X	225	50	-225	375
Minus X	225	-300	-225	-125
Plus Y	400	-125	25	125
Minus Y	50	-125	-475	125

Note: Reactions must be combined with Car Rail reactions to determine maximum loads at bracket support locations.

FLOOR BY FLOOR HEIGHTS CHART	
LANDING 9	NA
LANDING 8	NA
LANDING 7	NA
LANDING 6	NA
LANDING 5	NA
LANDING 4	NA
LANDING 3	NA
LANDING 2	NA
LANDING 1	14'-0"



SECTION A-A; 5' PIT SECTION VIEW

SCALE: NOT TO SCALE

DRAWING GENERATED USING PARAMETRX TECHNOLOGY

PREPARATORY WORK BY OTHERS: THE CUSTOMER OR CUSTOMER'S CONTRACTOR, SHALL BE RESPONSIBLE FOR THE FOLLOWING CONDITIONS PRIOR TO THE COMMENCEMENT OF WORK AT NO COST TO KONE, INC LOCAL CODES SHALL PREVAIL WHEN APPLICABLE

1. PROVIDE A CLEAR, PLUMB HOISTWAY OF THE SIZE SHOWN ON THE FINAL KONE LAYOUT. VARIATIONS MUST NOT EXCEED 1". (TOLERANCE = -0" + 1")
2. PROVIDE ADEQUATE SUPPORT FOR GUIDE RAIL BRACKETS (INCLUDING DIVIDER BEAMS FOR MULTIPLE ELEVATORS IN A COMMON HOISTWAY) FROM PIT FLOOR TO THE TOP OF THE HOISTWAY AND NOT SPANNING FURTHER THAN ALLOWED BY THE GOVERNING CODE AUTHORITY. FIREPROOFING SHALL BE AFTER INSTALLATION OF BRACKETS.
3. HOISTWAY VENTILATION SHALL BE PROVIDED PER CODE REQUIREMENTS
4. PROJECTIONS REQUIRING BEVELING IN ACCORDANCE WITH CODE REQUIREMENTS SHALL BE BEVELED AT AN ANGEL NOT LESS THAN 75 DEGREES FROM THE HORIZONTAL.
5. PROVIDE REMOVABLE, OSHA COMPLIANT BARRICADES AROUND ALL HOISTWAY OPENINGS AND BETWEEN ELEVATORS INSIDE OF THE HOISTWAY AS REQUIRED. PROVIDE TWO LIFELINE ATTACHMENTS AT THE TOP, FRONT OF THE HOISTWAY.
6. ARRANGE FOR ALL BLOCK OUT / CUTOUT OF OPENINGS TO INSTALL HALL PUSHBUTTONS, SIGNAL FIXTURES, AND HATCH DUCT.
7. PROVIDE A DRY PIT REINFORCED TO SUSTAIN VERTICAL FORCE FROM RAILS AND BUFFERS. REFERENCE THE REACTION LOAD TABLES FOR VERTICAL FORCES. SUMPS AND / OR PUMPS PUMPS (WHERE PERMITTED) LOCATED WIHTIN THE PIT MAY NOT INTRFERE WITH THE ELEVATOR EQUIPMENT.
8. PROVIDE SUITABLE LIGHTING FOR THE MACHINE SPACE WITH A LIGHT SWITCH LOCATED IN THE HOISTWAY. PROVIDE A LIGHT FIXTURE WITH AND A SEPARATE GFCI PROTECTED DUPLEX CONVENIENCE OUTLET IN THE ELEVATOR PIT.
9. ENTRANCE WALLS ARE TO BE LEFT OPEN UNTIL THE ELEVATOR EQUIPMENT IS INSTALLED. ADEQUATE SUPPORT FOR ENTRANCE ATTACHMENT POINTS IS REQUIRED ALL LANDINGS. ALL FINISHED FLOORING AND GROUTING IS TO BE INSTALLED AFTER THE ENTRANCE FRAMES ARE INSTALLED.
10. A PIT LADDER IS SUPPLIED BY KONE UNLESS OTHERWISE NOTED ON THE LAYOUT DRAWING. LOCATE AND INSTALL PER KONE FINAL LAYOUT DRAWINGS.
11. AN I-BEAM, PROVIDED BY KONE, MUST BE INSTALLED IN THE ELEVATOR HOISTWAY OVERHEAD PER THE KONE FINAL LAYOUT DRAWINGS.
12. FOR PROPER EQUIPMENT OPERATION; THE MACHINE SPACE AT THE TOP OF THE HOISTWAY MUST BE PROPERLY VENTED PER CODE REQUIREMENTS. MAX ALLOWED HUMIDITY IS 95% NON-CONDENSING. HOISTWAY MUST MAINTAIN A TEMPERATURE BETWEEN 41 F AND 104 F.
13. THE ACCESS DOOR TO THE CONTROL SPACE OR THE CONTROL ROOM MUST BE SECURED AGAINST UNAUTHORIZED ACCESS. IT SHALL BE SELF LOCKING AND SELF CLOSING.
14. PROVIDE A 15-AMP 102V AC FUSED SERVICE WITH GROUND (VIA EMERGENCY LIGHT SUPPLY IF AVAILABLE) CONNECTED TO EACH CONTROL CABINET FOR LIGHTING AND FAN. PROVIDE DEDICATED PHONE LINE TERMINATING AT THE ELEVATOR CONTROL CABINET.
15. FOR CONTROL SPACES LOCATED REMOTELY FROM THE ELEVATOR HOISTWAY, PROVIDE A GOVERNOR ACCESS DOOR OF SIZE AND LOCATION PER KONE FINAL LAYOUT DRAWINGS. THE ACCESS DOOR SHALL BE SECURED AGAINST UNAUTHORIZED ACCESS.
16. PROVIDE A SUITABLE WORKING ENVIRONMENT INCLUDING ADEQUATE ACCESS TO THE BUILDING, PROPER LIGHTING IN ALL AREAS, CLEAN AND SAFE STORAGE ADJACENT TO THE HOISTWAY, AND SUFFICIENT ON-SITE REFUSE CONTAINERS FOR THE DISPOSAL OF ELEVATOR PACKING MATERIALS.
17. THIS DRAWING MUST BE REVIEWED AND APPROVED BY A LICENCED PROFESSIONAL TO ENSURE COMPLIANCE WITH LOCAL BUILDING CODES.
18. THESE DRAWINGS ARE FOR INFORMATION PURPOSES ONLY AND MUST NOT BE USED FOR CONSTRUCTION PURPOSES. FULLY DETAILED CONSTRUCTION DRAWINGS ARE AVAILABLE FROM THE PRODUCT MANUFACTURER.

KONE EcoSpace

ONE KONE COURT
MOLINE, IL
P: 1-800-956-KONE (5663)
F: 309-743-5469
WWW.KONE.COM

SPECIFICATIONS		
PRODUCT NAME: KONE ECOSPACE ELEVATOR NON-SEISMIC CAPACITY: 2500 LBS (1134 KG) SPEED: 150 FPM DOOR: LEFT OPENING TRAVEL: 14'-0" CONTROL LOCATION: INTEGRAL CLOSET POWER SUPPLY: 208 REQUIRED FUSE AMPS: 35 CONTROLLER HEAT OUTPUT: 2.4 KBTU/HR MACHINE HEAT OUTPUT: 1.2 KBTU/HR	BUILDING (PROJECT NAME)	LOCATION
	ARCHITECT	OWNER
	ENGINEER	DATE
	DRAWING#	SHEET 1/1

CITY OF SAN ANTONIO PLAN REVIEWED DEVELOPMENT SERVICES DEPT

1 ELEVATOR PLAN DETAILS

N.T.S.

Tchen Architects
11906 ANDERSON MILL, #325
AUSTIN, TEXAS 78726
512.351.1801
512.870.9427 (FAX)
tchen@tchenarch.com
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ISSUE DATE 01.10.2013
DRAWN BY
CHECKED BY
SCALE AS SHOWN
REVISIONS
1 03.29.2013

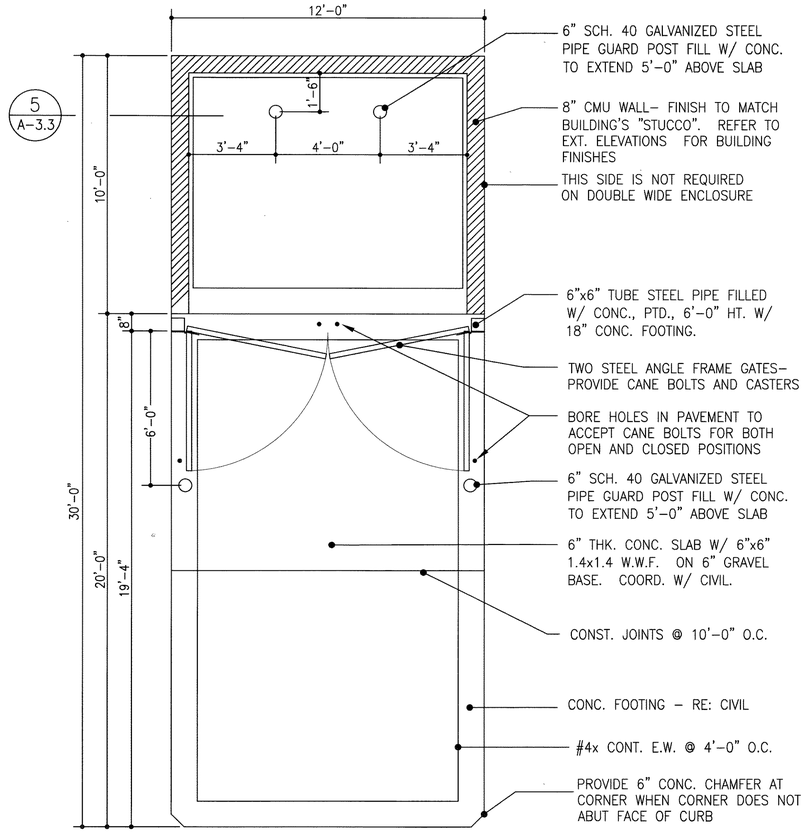
I hereby certify that I am a licensed architect in the State of Texas, and that these plans have been prepared by me, or under my direct supervision, and to the best of my knowledge conform to applicable state and the local building codes.

REGISTERED ARCHITECT JOHN C. TCHEN 7911 STATE OF TEXAS

LICENSE NUMBER 7911
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SHEET NUMBER
A-3.3



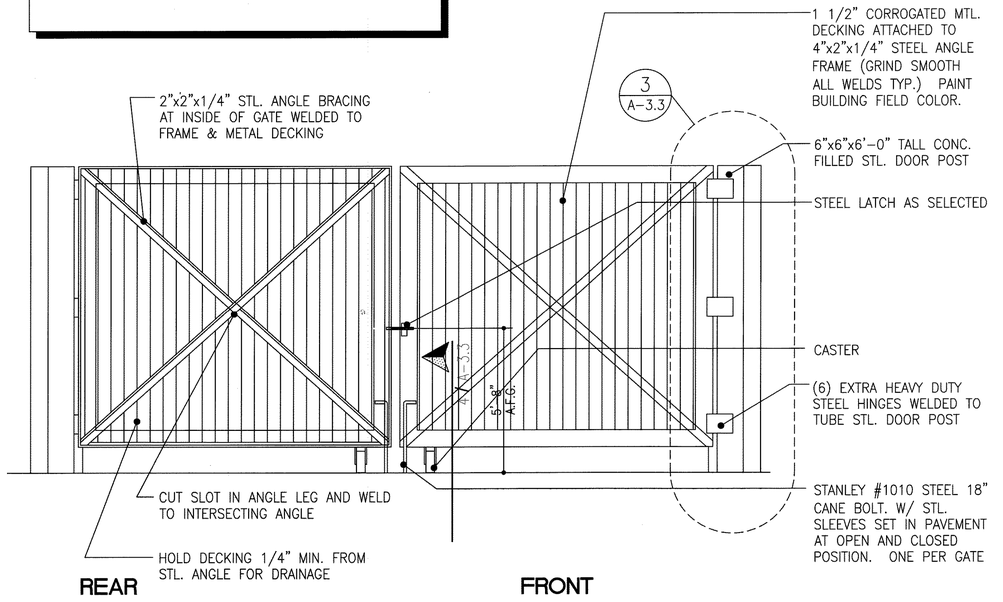
1 PLAN @ TRASH ENCLOSURE - MASONRY

SCALE: NTS

DUMPSTER NOTES:
1. VERIFY ALL PAVING NOTES & DETAILS W/ CIVIL DWGS. AND SOILS REPORT

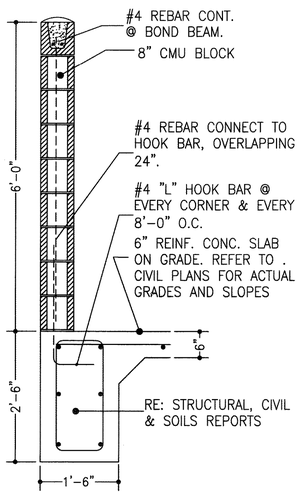
2. VERIFY DUMPSTER SIZE & TYPE WITH LOCAL DISTRIBUOTR PRIOR TO CONSTRUCTION.

3. CONTRACTOR SHALL VERIFY TRASH ENCLOSURE APPROACH APRON IS INSTALLED IN ACCORDANCE WITH THE MOST CURRENT SOIL REPORT. IN CASE OF CONFLICT BETWEEN THE REPORT AND THESE DRAWINGS THE MOST STRINGENT REQUIREMENTS SHALL BE ENFORCED.



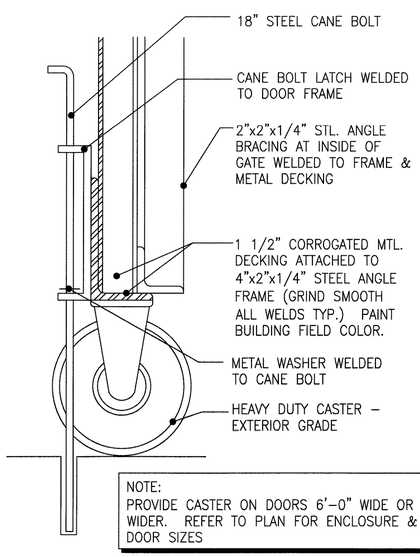
2 ELEVATION @ TRASH ENCLOSURE GATE - MASONRY

SCALE: NTS



5 SECTION @ MASONRY

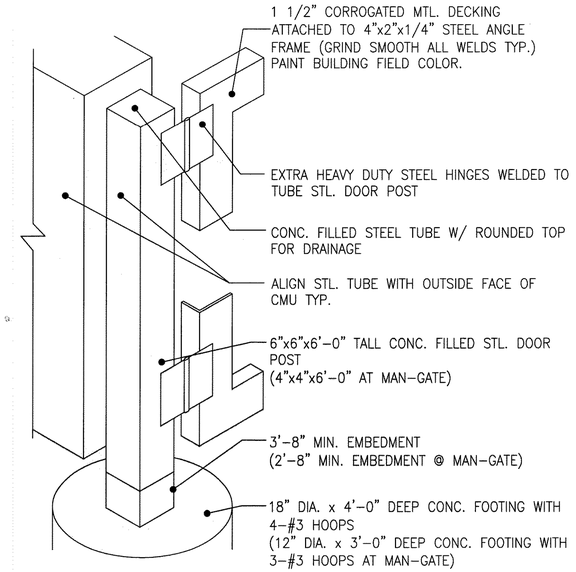
SCALE: NTS



NOTE:
PROVIDE CASTER ON DOORS 6'-0" WIDE OR WIDER. REFER TO PLAN FOR ENCLOSURE & DOOR SIZES

4 DETAIL @ CANE BOLT

SCALE: NTS



3 DETAIL @ GATE HINGE

SCALE: NTS

CITY OF SAN ANTONIO PLANS REVIEWED DEVELOPMENT SERVICES DEPT.

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GENERAL NOTES:
1. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE, AND NATIONAL CODES AND ORDINANCE AND ALL AUTHORITIES HAVING JURISDICTION OVER THE PROJECT. CODES INCLUDE BUT ARE NOT LIMITED TO: 2003 INTERNATIONAL FIRE CODE, 2009 INTERNATIONAL ENERGY CONSERVATION CODE, 2008 NEC, AND 2009 IECC.
2. TCHEN ARCHITECTS SHALL NOT BE RESPONSIBLE OR LIABLE FOR ANY BUILDING OR SAFETY CODES, STANDARDS, PRECAUTIONS AND PROGRAMS RELATED TO THIS PROJECT OR FOR SAFETY, PRECAUTIONS AND PROGRAMS RELATED TO THE WORK OF THIS PROJECT. NOR SHALL BE LIABLE OR RESPONSIBLE FOR THE QUALITY OF WORKMANSHIP PERFORMED BY THE CONTRACTOR.
3. DO NOT SCALE DRAWINGS FOR ANY DIMENSIONS. CONTACT ARCHITECT FOR ANY DIMENSIONS NOT SHOWN. CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS
4. USE ONLY PLANS THAT HAVE BEEN RED-STAMPED AND APPROVED BY CITY OF SAN ANTONIO FOR CONSTRUCTION

ISSUE DATE	01.10.2013
DRAWN BY	
CHECKED BY	
SCALE	AS SHOWN
REVISIONS	

I hereby certify that I am a licensed architect in the State of Texas, and that these plans have been prepared by me, or under my direct supervision, and to the best of my knowledge conform to applicable state and the local building codes.

REGISTERED ARCHITECT TIMOTHY L. TCHEN 7911 STATE OF TEXAS

LICENSE NUMBER 7911
EXP. DATE 1.31.2014

PROJECT NAME: NORTH LOOP RETAIL CENTER
PROJECT ADDRESS: 226 & 238 TEXAS LOOP 1604 SAN ANTONIO, TX 78232
SHEET TITLE: TRASH ENCLOSURE DETAILS

SHEET NUMBER

A-3.4

COORDINATION

1. ONLY LARGE OPENINGS IN STRUCTURAL FRAMING MEMBERS ARE SHOWN ON THE STRUCTURAL DRAWINGS. HOWEVER, ALL SLEEVES, EMBEDS, INSERTS, OPENINGS AND FRAMES THAT ARE NECESSARY FOR THE WORK SHALL BE PROVIDED. THE CONTRACTOR SHALL COORDINATE WITH ALL TRADES SIZES, LOCATIONS AND PLACEMENT. ALL OPENINGS AND EMBEDDED ITEMS WHICH HAVE AN EFFECT ON THE STRUCTURE SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW.
2. REFER TO ARCHITECTURAL, MECHANICAL, ELECTRICAL AND PLUMBING DRAWINGS FOR FLOOR ELEVATIONS, LOCATION OF DEPRESSED OR ELEVATED FLOOR AREAS, SLOPES AND DRAINS.
3. CONTRACTOR SHALL COORDINATE THE REQUIREMENTS FOR BUILDING EQUIPMENT SUPPORTED ON OR FROM THE STRUCTURE. SUBMITTALS IDENTIFY ALL EQUIPMENT INCLUDING SIZE, DIMENSIONS, CLEARANCES, ACCESSIBILITY, WEIGHTS AND REACTIONS. ANY DEVIATIONS FROM SPECIFIED EQUIPMENT SHALL BE NOTED ON THE SUBMITTALS.
4. SHOP DRAWINGS SHALL BE PREPARED FOR ALL STRUCTURAL ITEMS AND SUBMITTED FOR REVIEW BY THE ENGINEER. CONTRACT DRAWINGS SHALL NOT BE REPRODUCED AND USED AS SHOP DRAWINGS. ALL ITEMS DEVIATING FROM THE CONTRACT DRAWINGS OR FROM PREVIOUSLY SUBMITTED SHOP DRAWINGS SHALL BE NOTED.
5. THE DETAILS DESIGNATED AS "TYPICAL DETAILS" APPLY GENERALLY TO THE DRAWINGS IN ALL AREAS WHERE CONDITIONS ARE SIMILAR TO THOSE DESCRIBED IN THE DETAILS.

SUBSTITUTIONS

1. ALL REQUESTS FOR SUBSTITUTIONS OF MATERIALS OR DETAILS SHOWN IN THE CONTRACT DOCUMENTS SHALL BE SUBMITTED FOR APPROVAL DURING THE BIDDING PERIOD. ONCE BIDS ARE ACCEPTED, PROPOSED SUBSTITUTIONS WILL BE CONSIDERED ONLY WHEN THEY ARE OFFICIALLY SUBMITTED WITH AN IDENTIFIED SAVINGS TO BE DEDUCTED FROM THE CONTRACT.

CODES

1. BUILDING CODE: 2012 INTERNATIONAL BUILDING CODE.
2. STRUCTURAL CONCRETE: BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE, AMERICAN CONCRETE INSTITUTE, ACI 318–11.
3. MASONRY: BUILDING CODE REQUIREMENTS FOR CONCRETE MASONRY STRUCTURES, AMERICAN CONCRETE INSTITUTE, ACI 530–11 / ASCE 5–11 / TMS 402–11.
4. STRUCTURAL STEEL: MANUAL OF STEEL CONSTRUCTION, LOAD AND RESISTANCE FACTOR DESIGN, AMERICAN INSTITUTE OF STEEL CONSTRUCTION, FOURTHEEN EDITION.
5. LIGHT GAUGE STEEL: SPECIFICATION FOR THE DESIGN OF COLD FORMED STEEL STRUCTURAL MEMBERS, AMERICAN IRON AND STEEL INSTITUTE, LATEST EDITION.
6. WOOD FRAMING: NATIONAL DESIGN SPECIFICATIONS FOR WOOD CONSTRUCTION WITH SUPPLEMENT, NATIONAL FOREST AND PAPER PRODUCTS ASSOCIATION, 2012.
7. STRUCTURAL PLYWOOD: PLYWOOD DESIGN SPECIFICATION, AMERICAN PLYWOOD ASSOCIATION, LATEST EDITION.
8. PREFABRICATED FLOOR TRUSS JOISTS: PRODUCTS SHALL BE PROVEN BY TESTING AS DEMONSTRATED EITHER BY ICBO AND NRB ACCEPTANCE OR THROUGH A TEST PROGRAM MEETING UBC STANDARD.

DESIGN LOADS

1. LIVE LOADS.
   - OFFICE (NOT INCL. PARTITINS) 50 PSF
   - PUBLIC AREAS, CORRIDORS, LOBIES 100 PSF
   - MECHANICAL ROOMS 150 PSF
   - STORAGE (MINIMUM) 125 PSF
   - KITCHEN–COMMERCIAL (MINIMUM) 125 PSF
   - RETAIL 75 PSF
   - CLASSROOMS 40 PSF
   - SINGLE FAMILY RESIDENTIAL:
     I) TYPICAL U.N.O. 40 PSF
   - ATTIC SPACE 10 PSF
   - BALCONIES 60 PSF
   - RESTROOMS 50 PSF
   - STAIRS 100 PSF
   - PARTITION AT AREAS WITH 20 PSF
     80 PSF LIVE LOAD OR LESS
   - AWNINGS OR CANOPIES 5 PSF
2. DEAD LOADS INCLUDE THE SELF WEIGHT OF THE STRUCTURAL ELEMENTS ANDTHE FOLLOWING SUPERIMPOSED LOADS:
   - CEILING AND MECHANICAL AT ROOF 10 PSF
   - CEILING AND MECHANICAL AT FLOOR 5 PSF
   - THE MINIMUM ALLOWED ROOF LIVE LOAD IS 20 PSF, UNLESS A ROOF LOAD REDUCTION CAN BE APPLED. REFER 2012 IBC.

3. WIND LOADS
   WIND LATERAL LOAD ON STRUCTURAL FRAME IS BASED ON THE FOLLOWING:
   I) BASIC WIND SPEED (3 SEC GUST) 90 MPH
   I)WIND IMPORTANCE FACTOR 1.00
   I) WIND EXPOSURE C
   V) INTERNAL PRESSURE COEFFICIENT ± 0.18
   V) COMPONENT & CLADDING DESIGN PRESSURES:

EFFECTIVE AREA:	10F²
ZONE1 +9.22 PSF;	−22.67 PSF
ZONE2 +9.22 PSF;	−38.04 PSF
ZONE3 +9.22 PSF;	−57.25 PSF
ZONE4 +22.67 PSF;	−24.59 PSF
ZONE5 +22.67 PSF;	−30.35 PSF
EFFECTIVE AREA:	50F²
ZONE1 +7.88 PSF;	−21.33 PSF
ZONE2 +7.88 PSF;	−28.64 PSF
ZONE3 +7.88 PSF;	−34.42 PSF
ZONE4 +20.30 PSF;	−22.22 PSF
ZONE5 +20.30 PSF;	−25.61 PSF
EFFECTIVE AREA:	100F²
ZONE1 +7.30 PSF;	−20.75 PSF
ZONE2 +7.30 PSF;	−24.59 PSF
ZONE3 +7.30 PSF;	−34.42 PSF
ZONE4 +20.30 PSF;	−22.22 PSF
ZONE5 +20.30 PSF;	−23.57 PSF

4. LOADING FOR MECHANICAL ROOMS AND KITCHENS ARE BASED ON THE WEIGHTS OF EQUIPMENT AND CONCRETE PADS AS INDICATED ON THE CONTRACT DOCUMENTS. ANY REVISIONS IN EQUIPMENT TYPE, SIZE, OR QUANTITY SHALL BE REPORTED TO THE ARCHITECT IMMEDIATELY FORVERIFICATION OF THE STRUCTURAL DESIGN.
5. FLOOR AND ROOF LIVE LOADS HAVE NOT BEEN REDUCED.

TESTING LABORATORY SERVICES

1. WORK SPECIFIED HEREIN SHALL BE PERFORMED BY A QUALIFIED INDEPENDENT TESTING LABORATORY, SELECTED AND PAID BY THE OWNER.
2. PIER DRILLING OPERATION: MAKE CONTINUOUS INSPECTIONS TO DETERMINE THAT THE PROPER BEARING STRATUM IS OBTAINED AND UTILIZED FOR BEARING AND THAT THE SHAFTS ARE CLEAN AND DRY BEFORE POURING CONCRETE.
3. FILLING AND BACKFILLING OPERATION:
   - ANALYZE BACKFILL SAMPLES DELIVERED BY THE CONTRACTOR TO DETERMINE COMPLIANCE WITH GRADATION AND QUALITY REQUIREMENTS OF THE GEOTECHNICAL REPORT.
   - MAKE IN PLACE COMPACTION TESTS FOR MOISTURE CONTENT, MOISTURE DENSITY RELATIONSHIP, AND DENSITY OF MATERIALS IN PLACE. PERFORM ONE TEST FOR EACH 5000 SQUARE FEET OF AREA PER LIFT.
4. CONCRETE INSPECTION AND TESTING:
   - SECURE COMPOSITE SAMPLES OF CONCRETE AT THE JOBSITE IN ACCORDANCE WITH ASTM C172.
   - MOLD AND CURE THREE SPECIMENS FROM EACH SAMPLE IN ACCORDANCE WITH ASTM C31. TEST SPECIMENS IN ACCORDANCE WITH ASTM C39. TWO SPECIMENS SHALL BE TESTED AT 28 DAYS FOR ACCEPTANCE AND ONE SHALL BE TESTED AT SEVEN DAYS FOR INFORMATION.
   - PERFORM ONE STRENGTH TEST (THREE CYLINDERS) FOR EACH 100 CUBIC YARDS OF FRACTION THEREOF, OF EACH MIX DESIGN PLACED IN ONE DAY.
   - MAKE ONE SLUMP TEST FOR EACH SET OF CYLINDERS FOLLOWING THE PROCEDURAL REQUIREMENTS OF ASTM C143 AND C172.
   - DETERMINE TOTAL AIR CONTENT OF AIR ENTRAINED CONCRETE IN ACCORDANCE WITH ASTM C231. PERFORM ONE TEST FOR EACH STRENGTH TEST.
5. CONCRETE REINFORCEMENT: INSPECT ALL CONCRETE REINFORCING STEEL AND EMBEDDED METAL ASSEMBLIES PRIOR TO PLACEMENT OF CONCRETE FOR COMPLIANCE WITH CONTRACT DOCUMENTS AND SHOP DRAWINGS. ALL INSTANCES OF NON–COMPLIANCE SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE CONTRACTOR FOR CORRECTION, AND IF UNCORRECTED, REPORTED TO THE ENGINEER.
6. STRUCTURAL MASONRY: PROVIDE A QUALIFIED MASONRY INSPECTOR TO INSPECT ALL MASONRY WORK ON A PERIODIC BASIS. INSPECT WORK IN PROGRESS AT LEAST ONCE FOR EVERY 5000 SQUARE FEET OF WALL LAID, BUT NOT LESS THAN ONCE A DAY.
   - INSPECTIONS: INSPECT THE PLACEMENT OF REINFORCING, MORTAR AND GROUT MIXING OPERATIONS, BEDDING OF MORTAR FOR EACH TYPE OF UNIT AND PLACING OF UNITS.
   - PRISM TESTS: DETERMINE THE COMPRESSIVE STRENGTH OF CLAY MASONRY BY THE PRISM TEST METHOD IN ACCORDANCE WITH ASTM C 1314. PRISMS SHALL BE LAID IN STACK BOND IN STRETCHER POSITION, A MINIMUM OF 2 UNITS HIGH, AND HAVE A HEIGHT–TO–THICKNESS RATIO BETWEEN 1.3 AND 5.0. APPLY MORTAR TO FACE SHELLS AND WEBS. TEST THREE SPECIMENS OF EACH TYPE OF MASONRY UNIT FOR EACH 5000 SQUARE FEET OF WALL PLACED.
7. EXPANSION ANCHORS: PROVIDE CONTINUOUS INSPECTION OF EXPANSION BOLT INSTALLATION TO ENSURE THAT HOLES ARE OF THE SPECIFIED SIZE, AND THAT BOLTS ARE PROPERLY INSTALLED INCLUDING APPLICATION OF MINIMUM INSTALLATION TORQUES.
8. STRUCTURAL STEEL: FIELD INSPECTION OF PROPER ERECTION OF ALL MEMBERS, VISUAL EXAMINATION OF ALL FIELD WELDING, VISUAL INSPECTION OF ALL BOLTS, INSPECTION OF ALL SHOP FABRICATED MEMBERS UPON ARRIVAL AT THE JOBSITE FOR CONFORMANCE WITH ACCEPTED FABRICATION AND ERECTION DRAWINGS, VERIFICATION OF WELDER'S CERTIFICATES.

BUILDING PAD PREPARATION

1. STRUCTURAL FILL MATERIAL SHALL HAVE A PLASTICITY INDEX NO GREATER THEN 12, AND A LIQUID LIMIT LESS THAN 35. GRADATION OF MATERIAL SHALL BE AS FOLLOWS:
   PERCENT FINER ON 1–1/4" SCREEN 100%
   PERCENT FINER ON 1" SCREEN 95%–100%
   PERCENT FINER ON 3/4" SCREEN 70%–95%
   PERCENT FINER ON 3/8" SCREEN 30%–90%
   PERCENT FINER ON NO. 4 SIEE 30%–80%
   PERCENT FINER ON NO. 40 SIEE 15%–70%
2. PRIOR TO PLACING FILL MATERIAL, REMOVE ALL ORGANIC AND OTHER DELETERIOUS MATERIAL FROM THE EXISTING SUBGRADE FOR A DISTANCE OF 3'–0" BEYOND BUILDING LINE. ALL EXPOSED SURFACES SHALL THEN BE SCARIFIED TO A DEPTH OF 6 INCHES, WATERED AS REQUIRED AND RECOMPACTED TO A MINIMUM OF 95 PERCENT OF THE MAXIMUM DRY DENSITY AS DEFINED BY ASTM D 698 (STANDARD PROCTOR TEST) AT A MOISTURE CONTENT WITHIN 3 PERCENT OF THE OPTIMUM MOISTURE CONTENT.
3. STRUCTURAL FILL SHALL BE PLACED IN 6 INCH LOOSE LIFTS, WATERED AS REQUIRED AND COMPACTED TO A MINIMUM OF 95 PERCENT OF THE MAXIMUM DRY DENSITY AS DEFINED IN ASTM D 698 AT A MOISTURE CONTENT WITHIN 3 PERCENT OF THE OPTIMUM MOISTURE CONTENT.
4. COMPACTION AND MOISTURE CONTENT OF SUBGRADE AND EACH LIFT OF STRUCTURAL FILL SHALL BE INSPECTED AND APPROVED BY A QUALIFIED ENGINEERING TECHNICIAN, SUPERVISED BY A GEOTECHNICAL ENGINEER.
5. STRUCTURAL FILL SHALL NOT BE PLACED BEYOND THE LIMITS OF THE EXTERIOR BUILDING STRUCTURE.
6. PROVIDE A 10 MIL POLYETHYLENE VAPOR BARRIER. PLACE VAPOR BARRIER IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATION ON TOP OF STRUCTURAL FILL.
7. BUILDING PAD PREPARATION INFORMATION IS BASED ON A GEOTECHNICAL REPORT PROVIDED BY BURGE–MARTINEZ CONSULTING, INC.

SLAB ON GROUND:

1. SOIL SUPPORT SYSTEM : THE SOIL SUPPORT SYSTEM SHOULD BE WELL DRAINED AND PROVIDE ADEQUATE AND UNIFORM LOAD–BEARING SUPPORT.
2. BASE MATERIAL : THE MATERIAL SHOULD BE A COMPACTIBLE, EASY–TO–TRIM, GRANULAR FILL THAT WILL REMAIN STABLE AND SUPPORT CONSTRUCTION TRAFFIC. A CLEAN, FINE–GRADED MATERIAL WITH AT LEAST 10 PERCENT TO 30 PERCENT OF PARTICLES PASSING A NO:100 SIEVE BUT NOT CONTAMINATED WITH CLAY, SILT, OR ORGANIC MATERIAL IS RECOMMENDED.
3. VAPOR BARRIER :IF A VAPOR BARRIER OR VAPOR RETARDER IS REQUIRED DUE TO LOCAL CONDITIONS, THESE PRODUCTS SHOULD BE PLACED UNDER A MINIMUM OF 4" OF TRIMABLE, COMPACTIBLE, GRANULAR FILL (NOT SAND). A USUALLY GRADED FROM 1 1/2" TO 2" DOWN TO ROCK DUST, IS SUITABLE. FOLLOWING COMPACTION, THE SURFACE CAN BE CHOCKED OFF WITH A FINE GRADED MATERIAL TO REDUCE FRICTION BETWEEN THE BASE MATERIAL AND THE SLAB. THE RECOMMENDED POLYETHYLENE FILM A THICKNESS OF NOT LESS THAN 10 MILS BE USED.
4. SAW–CUT JOINTS: THE RECOMMENDED SAW CUTTING SHOULD BE PERFORMED
   (I) BEFORE CONCRETE STARTS TO COOL. (II) AS SOON AS THE CONCRETE SURFACE IS FIRM ENOUGH TO BE TORN OR DAMAGED BY THE BLADE, AND (III) BEFORE RANDOM – DRYING – SHRINKAGE CRACKS CAN FORM IN THE CONCRETE SLAB. IF SAWING IS UNDULY DELAYED,THE CONCRETE CAN CRACK RANDOMLY BEFORE IT IS SAWED. ADDITIONALLY, DELAY CAN GENERATE CRACKS THAT RUN OFF FROM THE SAW BLADE TOWARD THE EDGE OF THE SLAB AT AN OBTUSE OR SKEWED ANGLE TO THE SAW CUT.
5. JOINT FILLING : WHERE THERE ARE WET CONDITIONS, HYGIENIC AND DUST–CONTROL REQUIREMENTS, OR WHERE THE FLOOR IS SUBJECTED TO TRAFFIC BY SMALL, HARD–WHEELED VEHICLES SUCH AS FORKLIFTS, CONTRACTION & CONSTRUCTION JOINTS SHOULD BE FILLED AND PROTECTED WITH A SEMIRIGID EPOXY THAT GIVES ADEQUATE SUPPORT TO THE JOINT EDGES AND HAS SUFFICIENT RESISTANCE TO WEAR.

CAST IN PLACE CONCRETE

1. CAST IN PLACE CONCRETE SHALL MEET THE FOLLOWING REQUIREMENTS:

	28 DAYS AGGREGATE			
CLASS	STRENGTH	TYPE	SIZE	SLUMP USE
A	3000 PSI	33"	3"–4"	ALL, U.N.O.
B	3000 PSI	33"	5"–7"	DRILLED PIERS

2. PROVIDE 5 PERCENT PLUS OR MINUS 1 1/2 PERCENT OF ENTRAINED AIR IN CONCRETE PERMANENTLY EXPOSED TO THE WEATHER AND ELSEWHERE AT THE CONTRACTORS OPTION. DO NOT USE ENTRAINED AIR IN DRILLED PIERS.
3. HORIZONTAL CONSTRUCTION JOINTS IN CONCRETE POURS SHALL BE PERMITTED ONLY WHERE INDICATED ON THE DRAWINGS. ALL VERTICAL CONSTRUCTION JOINTS SHALL BE MADE IN THE CENTER OF SPANS IN ACCORDANCE WITH THE TYPICAL DETAILS. CONTRACTOR SHALL SUBMIT PROPOSED LOCATIONS FOR CONSTRUCTION JOINTS NOT SHOWN ON DRAWINGS FOR REVIEW BY THE ARCHITECT AND STRUCTURAL ENGINEER. ADDITIONAL CONSTRUCTION JOINTS MAY REQUIRE ADDITIONAL REINFORCING AS SPECIFIED BY THE ENGINEER WHICH SHALL BE PROVIDED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
4. EMBEDDED CONDUITS, PIPES, AND SLEEVES SHALL MEET THE REQUIREMENTS OF ACI 318–98, SECTION 6.3, INCLUDING THE FOLLOWING:
   - CONDUITS AND PIPES EMBEDDED WITHIN A SLAB, WALL, OR BEAM (OTHER THAN THOSE PASSING THROUGH) SHALL NOT BE LARGER IN OUTSIDE DIMENSION THAN 1/3 THE OVERALL THICKNESS OF THE SLAB, WALL OR BEAM IN WHICH THEY ARE EMBEDDED.
   - CONDUITS, PIPES AND SLEEVES SHALL NOT BE SPACED CLOSER THAN THREE DIAMETERS OR WIDTHS ON CENTER.
5. CONCRETE POURS SHALL NOT EXCEED 5000 SQUARE FEET OR 100 LINEAR FEET ON EACH SIDE WITHOUT PRIOR APPROVAL BY THE ARCHITECT FOR EACH POUR.

CONCRETE REINFORCING

1. REINFORCING STEEL SHALL BE DEFORMED NEW BILLET STEEL BARS IN ACCORDANCE WITH ASTM A615 GRADE 60.
2. DETAILING OF REINFORCING STEEL SHALL CONFORM TO THE AMERICAN CONCRETE INSTITUTE DETAILING MANUAL.
3. ALL HOOKS AND BENDS IN REINFORCING BARS SHALL CONFORM TO ACI DETAILING STANDARDS UNLESS SHOWN OTHERWISE.
4. PROVIDE REINFORCING BARS IN ACCORDANCE WITH THE BAR BENDING DIAGRAM IF BAR TYPES ARE SPECIFIED. IN UNSCHEDULED BEAMS, SLABS, COLUMNS AND WALLS DETAIL REINFORCING AS FOLLOWS:
   - LAP TOP REINFORCING BARS AT MID SPAN.
   - LAP BOTTOM REINFORCING BARS AT THE SUPPORTS.
   - LAP VERTICAL BARS IN COLUMNS AND WALLS ONLY AT FLOOR LINES, UNLESS NOTED OTHERWISE.
   - LAP REINFORCING BARS 38 BAR DIAMETERS MINIMUM, UNLESS NOTED OTHERWISE.
   - PROVIDE STANDARD HOOKS IN TOP BARS AT CANTILEVER AND DISCONTINUOUS ENDS OF BEAMS, WALLS AND SLABS.
   - PROVIDE CORNER BARS FOR ALL HORIZONTAL BARS AT THE INSIDE AND OUTSIDE FACES OF INTERSECTING BEAMS OR WALLS. CORNER BARS ARE NOT REQUIRED IF TOP, BOTTOM, OR HORIZONTAL BARS ARE HOOKED.
5. WELDING OF REINFORCING STEEL WILL NOT BE PERMITTED.
6. HEAT SHALL NOT BE USED IN THE FABRICATION OR INSTALLATION OF REINFORCEMENT.
7. REINFORCING STEEL CLEAR COVER SHALL BE AS FOLLOWS:
   - GRADE BEAMS –1 1/2" TOP, 3" BOTTOM, 2" SIDE (FORMED), 3" SIDE (PLACED AGAINST EARTH)
   - DRILLED PIERS –3" BOTTOM, 3" SIDES
   - SLABS ABOVE GRADE –1"
8. SUBMITTAL: SUBMIT SHOP DRAWINGS FOR FABRICATION, BENDING, AND PLACEMENT OF CONCRETE REINFORCEMENT. COMPLY WITH ACI 315 "DETAILS AND DETAILING OF CONCRETE REINFORCEMENT". DO NOT REPRODUCE THE CONTRACT DRAWINGS FOR USE AS SHOP DRAWINGS.

STRUCTURAL MASONRY

1. CONCRETE MASONRY UNITS SHALL BE HOLLOW LOAD BEARING TYPE N–1 UNITS WHICH CONFORM TO ASTM C90, WITH A MINIMUM COMPRESSIVE STRENGTH OF 1900 PSI.
2. CLAY MASONRY UNITS SHALL BE EITHER FACING BRICK UNITS OR STRUCTURAL CLAY FACING TILE UNITS WHICH CONFORM TO ASTM C216 OR ASTM C212, RESPECTIVELY, BOTH WITH A MINIMUM COMPRESSIVE STRENGTH OF 1400 PSI.
3. MINIMUM COMPRESSIVE PRISM STRENGTH OF THE MASONRY (F'M) SHALL BE 1500 POUNDS PER SQUARE INCH WHEN TESTED AT 28 DAYS.
4. CHASES SHALL BE BUILT IN AND NOT CUT IN. CHASES SHALL BE PLUMB AND SHALL BE MINIMUM ONE–UNIT LENGTH FROM JAMBS OF OPENINGS. ANCHORS, WALL PLUGS, ACCESSORIES AND OTHER ITEMS TO BE BUILT IN SHALL BE INSTALLED AS THE MASONRY WORK PROGRESSES. ALL CUTTING AND FITTING OF MASONRY, INCLUDING THAT REQUIRED TO ACCOMMODATE THE WORK OF OTHER SECTIONS SHALL BE DONE BY MASONS WITH MASONRY SAWS.
5. MORTAR SHALL CONFORM TO ASTM C270, TYPE S, BY PROPORTION. MASONRY CEMENT SHALL NOT BE USED.
6. COARSE GROUT SHALL CONFORM TO ASTM C476, BY PROPORTION, WITH A MAXIMUM AGGREGATE SIZE OF 1/2".
7. REINFORCE CONCRETE MASONRY UNIT AND STRUCTURAL CLAY FACING TILE UNIT JOINTS WITH LADDER TYPE HOT DIP GALVANIZED COLD–DRAWN STEEL CONFORMING TO ANSI/ASTM A82, WITH (NO. 9 GAUGE OR 3/16 INCH) SIDE RODS WITH NO. 9 GAUGE CROSS RODS. SPACE JOINT REINFORCING AT 16" O.C. UNLESS NOTED OTHERWISE. PROVIDE "TRIROD" JOINT REINFORCING WHERE 6" OR WIDER MASONRY UNITS BACKUP BRICK MASONRY VENEER. LAP JOINT REINFORCING 14" AT SPLICES. JOINT REINFORCING SHALL BE DISCONTINUOUS AT CONTROL AND EXPANSION JOINTS.
8. PROVIDE REINFORCED AND GROUTED VERTICAL CELLS OF CONCRETE MASONRY UNITS AND STRUCTURAL CLAY FACING TILE UNITS AT 48" ON CENTER UNLESS NOTED OTHERWISE ON THE DRAWINGS. REINFORCING SHALL CONSIST OF #4 BARS. GROUT AND REINFORCE THE FIRST CELL AT THE ENDS OF WALLS AND AT CORNERS.
9. REINFORCE EACH CELL OF CONCRETE MASONRY UNITS AND STRUCTURAL CLAY FACING TILE UNITS UNITS EACH SIDE OF FRAMED OPENINGS WITH 1–#4 VERTICAL. GROUT CELL FULL HEIGHT OF WALL.
10. LAP REINFORCING BARS IN GROUTED MASONRY 36 BAR DIAMETERS MINIMUM AT FOUNDATIONS AND 48 BAR DIAMETERS AT ALL OTHER LOCATIONS, UNLESS NOTED OTHERWISE. EXCEPT AT FOUNDATIONS, SPLICES IN REINFORCING SHALL BE STAGGERED SO THAT NOT MORE THAN 1/2 OF ALL BARS ARE SPLICED AT THE SAME LOCATION.
11. PROVIDE ADJUSTABLE UNIT TIES IN BED JOINTS OF MASONRY UNITS SHOWN ON PLAN ATTACHED TO STEEL COLUMNS AT 16" O.C., VERTICALLY.
12. Z–TIES SHALL BE PROVIDED IN ALL MASONRY SURFACES USED AS A FORM FOR TIES SHALL BE HOT DIP GALVANIZED, 6" LONG WITH A 2" HOOK AT EACH END, UNLESS NOTED OTHERWISE.
13. PROVIDE 1" CLEAR COVER BETWEEN TIES OR LONGITUDINAL REINFORCING AND THE INSIDE FACE OF MASONRY USED AS FORMS IN GROUTED BEAMS, PILASTERS AND COLUMNS.

STRUCTURAL STEEL

1. STRUCTURAL STEEL SHALL CONFORM TO ASTM SPECIFICATION A992 OR A572, GRADE 50 EXCEPT WHERE A36 IS NOTED ON PLAN, EXCEPT THAT MISCELLANEOUS PLATES, ANGLES, AND CHANNELS MAY BE A572, GRADE 50 OR A36. STEEL PIPE SHALL CONFORM TO ASTM SPECIFICATION A53, TYPE E OR S, GRADE B. RECTANGULAR HOLLOW STRUCTURAL STEEL SECTIONS SHALL CONFORM TO ASTM SPECIFICATION A 500, GRADE B, FY=46 KSI. ROUND HOLLOW STRUCTURAL STEEL SECTIONS SHALL CONFORM TO ASTM SPECIFICATION A 500, GRADE B, FY=42 KSI.
2. COLUMN BASE PLATES SHALL BE GROUTED WITH A NON–SHRINK, HIGH STRENGTH NONMETALLIC GROUT.
3. SPLICING OF STRUCTURAL STEEL MEMBERS IS PROHIBITED WITHOUT PRIOR APPROVAL OF THE ENGINEER AS TO LOCATION AND TYPE OF SPLICE TO BE MADE. ANY MEMBER HAVING SPLICE NOT SHOWN AND DETAILED ON SHOP DRAWINGS WILL BE REJECTED.
4. ALL WELDS DENOTED AS MOMENT CONNECTION OR FULL PENETRATION WELD SHALL BE ULTRASONICALLY OR X–RAY CERTIFIED BY AN INDEPENDENT TESTING AGENCY.
5. CONTRACTOR SHALL COORDINATE STRUCTURAL STEEL FIREPROOFING REQUIREMENTS. ALL INTERIOR STRUCTURAL STEEL, INCLUDING STEEL JOISTS, SCHEDULED OR INDICATED TO RECEIVE SPRAY APPLIED FIREPROOFING SHALL BE DELIVERED TO THE PROJECT SITE UNPRIMED. STEEL EXPOSED TO CORROSIVE CONDITIONS AFTER INSTALLATION SHALL BE PRIMED WITH A PROTECTIVE COATING WHICH DOES NOT DIMINISH THE BOND BETWEEN THE SPRAY APPLIED FIREPROOFING, AND THE STEEL SUBSTRATE. ANY PRIMER, AND/OR COATING APPLIED TO STRUCTURAL STEEL SHALL BE APPROVED FOR USE IN THE APPLICABLE U.L. FIRE RESISTANCE ASSEMBLY USED ON THE PROJECT. CONTRACTOR SHALL PROTECT ANY UNPRIMED STRUCTURAL STEEL FROM DETRIMENTAL EFFECTS OF CORROSION, AS REQUIRED, UNTIL THE STEEL IS ENCLOSED AND PROTECTED BY THE NEW CONSTRUCTION.
6. SHOP PAINTING: PAINT STRUCTURAL STEEL WITH ONE COAT OF MANUFACTURER'S STANDARD RED OXIDE PRIMER APPLIED AT A RATE TO PROVIDE A UNIFORM DRY FILM THICKNESS OF 2.5 MILS.
7. SUBMITTAL: PROVIDE DRAWINGS SHOWING DETAILS FOR FABRICATION AND SHOP ASSEMBLY OF MEMBERS, ERECTION PLANS AND DETAILS. INCLUDE DETAILS OF CONNECTIONS, CAMBER, WELD PROFILES AND SIZES AND SPACING. SHOP AND ERECTION DRAWINGS SHALL NOT BE MADE USING REPRODUCTIONS OF THE CONTRACT DRAWINGS.

STRUCTURAL STEEL CONNECTIONS

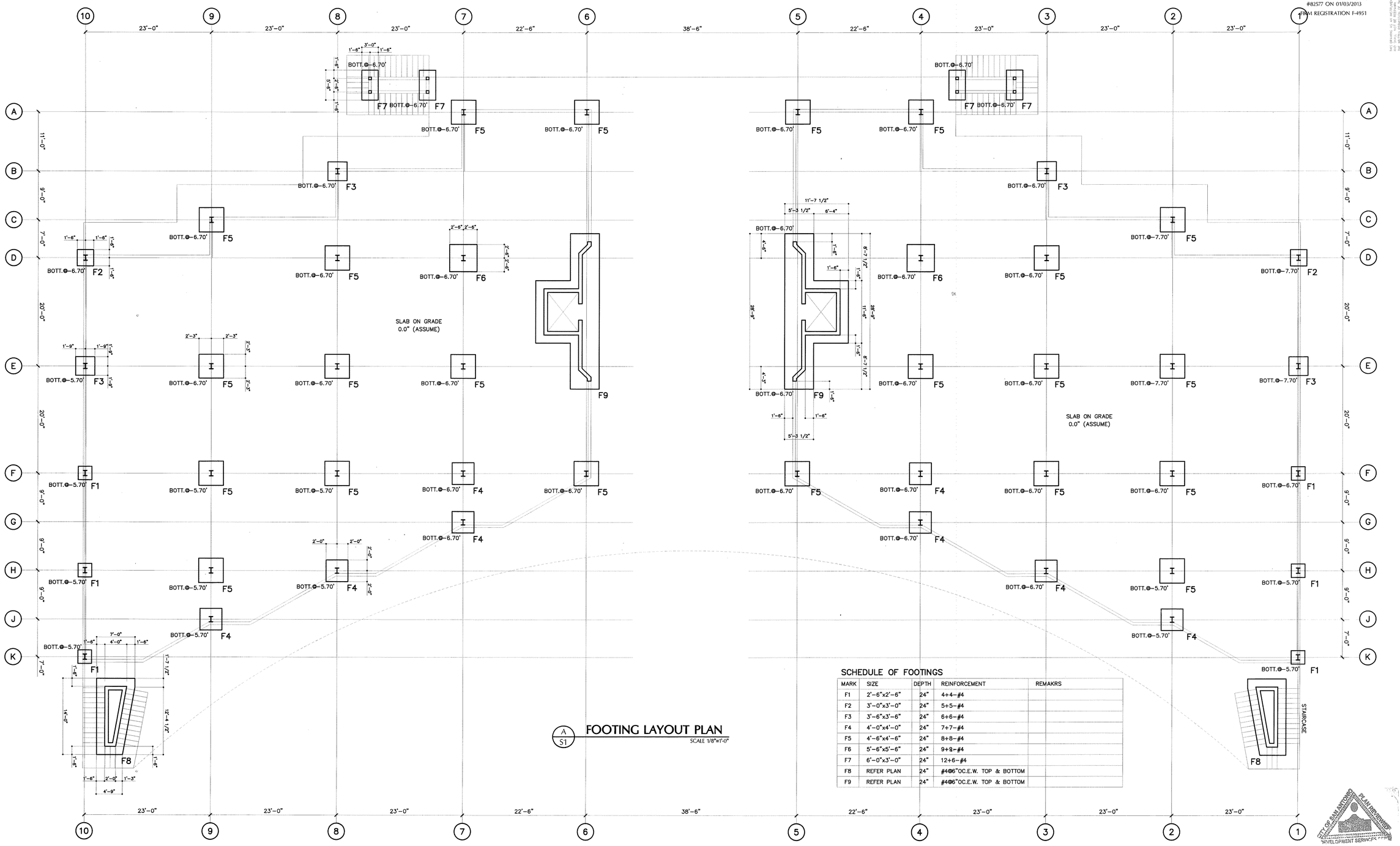
1. WELDING SHALL CONFORM TO ANSI/AWS D1.1, LATEST EDITION.
2. BOLTS CONFORM TO ASTM A325. BOLTS SHALL BE DESIGNED USING VALUES FOR BEARING TYPE BOLTS WITH THREAD ALLOWED IN THE SHEAR PLANE.
3. STRUCTURAL STEEL CONNECTIONS NOT SPECIFICALLY DETAILED ON THE DRAWINGS SHALL BE DESIGNED AND DETAILED BY THE CONTRACTOR UNDER THE DIRECT SUPERVISION OF A REGISTERED ENGINEER LICENSED IN THE STATE OF TEXAS. SEALED CALCULATIONS FOR ALL CONNECTIONS DESIGNED BY THE CONTRACTOR SHALL BE SUBMITTED FOR THE ARCHITECT'S FILES.
4. BEAM CONNECTIONS SHALL BE DESIGNED AND DETAILED AS FOLLOWS, UNLESS NOTED OTHERWISE ON THE DRAWINGS:
   - CONNECTIONS SHALL BE AISC TYPE 2 SIMPLE FRAMING CONNECTIONS. SHEAR TAB CONNECTIONS SHALL NOT BE USED.
   - IN GENERAL, SHOP CONNECTIONS SHALL BE BOLTED OR WELDED AND FIELD CONNECTIONS SHALL BE BOLTED.
   - WHERE INDICATED, CONNECTIONS SHALL BE DESIGNED FOR THE SCHEDULED SHEAR FORCE, THE SHEAR FORCE INDICATED ON THE DRAWINGS AS "V= ", AND THE HORIZONTAL FORCE INDICATED AS "H= ".
   - IF NOT INDICATED ON THE DRAWINGS, CONNECTIONS SHALL BE DESIGNED FOR 55 PERCENT OF THE TOTAL LOAD CAPACITY FOR THE BEAM SPAN SHOWN IN THE BEAM TABLES IN SECTION 2 OF THE AISC MANUAL, NINTH EDITION.
   - THE MINIMUM NUMBER OF ROWS OF BOLTS SHALL BE 1/6 OF THE BEAM DEPTH WITH ANY FRACTION BE ROUNDED TO THE NEXT HIGHER NUMBER.
   - BOLTS SHALL BE "SNUG TIGHT", U.N.O.
   - SHORT SLOTTED HOLES SHALL BE PERMITTED PROVIDED WASHERS ARE INSTALLED IN ACCORDANCE WITH AISC REQUIREMENTS. WASHERS SHALL BE HARDENED WHERE A325 BOLTS ARE UTILIZED.
5. WIND BRACE AND TRUSS CONNECTIONS SHALL BE DESIGNED AND DETAILED AS FOLLOWS, UNLESS NOTED OTHERWISE ON THE DRAWINGS:
   - CONNECTIONS SHALL BE WELDED.
   - CONNECTIONS SHALL BE DESIGNED AND DETAILED FOR THE FORCES SHOWN ON THE DRAWINGS.
   - IF FORCES ARE NOT INDICATED ON THE DRAWINGS, CONNECTIONS SHALL BE DESIGNED TO DEVELOP THE FULL TENSILE CAPACITY OF THE MEMBERS.
6. FOR CONNECTIONS NOT SPECIFICALLY ADDRESSED BY THESE NOTES OR THE DRAWINGS, PROVIDE FILLET WELDS AT ALL CONTACT SURFACES SUFFICIENT TO DEVELOP THE TENSILE STRENGTH OF THE SMALLER MEMBER AT THE JOINT.
7. MOMENT CONNECTIONS INDICATED ON DRAWINGS AS "MC" SHALL BE WELDED TO DEVELOP THE FULL CAPACITY OF THE MEMBER ON BOTH SIDES OF SUPPORTING MEMBER.
8. ROOF EDGES ANGLES SHALL BE CONTINUOUS AND SHALL BE SPLICED ONLY AT SUPPORTS. SPLICES SHALL BE BUTT–WELDED TO DEVELOP FULL CAPACITY OF THE MEMBER.
9. FILLET WELDS WITH NO SIZE SPECIFIED SHALL BE 3/16", OR MINIMUM SIZE REQUIRED BY AISC, WHICHEVER IS LARGER.

SLABS ON PERMANENT METAL FORM DECK

1. STEEL FOR DECK SHALL CONFORM TO ASTM A446, GRADE E, WITH A GALVANIZED COATING CONFORMING TO ASTM A525, G90 COATING CLASS.
2. LAP ENDS OF DECK 2" AT SUPPORTS AND 1 CORRUGATION AT SIDES. WELD DECK TO SUPPORTS WITH 3 PUDDLE WELDS PER SHEET PER BEARING USING 1/2" WELD WASHERS. ATTACH DECK TO CONCRETE SUPPORTS USING THREE 3/16" POWDER ACTUATED PINS PER SHEET PER BEARING.

SUMITTALS

1. SHOP DRAWINGS SHALL BE PREPARED FOR ALL STRUCTURAL ITEMS AND SUBMITTED FOR REVIEW BY THE ENGINEER. CONTRACT DRAWINGS SHALL NOT BE REPRODUCED AND USED AS SHOP DRAWINGS. ALL ITEMS DEVIATING FROM THE CONTRACT DRAWINGS OR FROM PREVIOUSLY SUBMITTED SHOP DRAWINGS SHALL BE CLOUDED.
2. THE CONTRACTOR SHALL REVIEW SHOP DRAWINGS FOR COMPLIANCE WITH THE, CONTRACT DOCUMENTS AND SHALL CERTIFY THAT HE HAS DONE SO BY A STAMP NOTING THAT THE DRAWINGS HAVE BEEN "APPROVED" AND WHICH BEARS THE SIGNATURE (OR INITIALS) OF AN AUTHORIZED REPRESENTATIVE OF THE CONTRACTOR AND THE DATE.
3. CORRECTIONS OR COMMENTS ON SHOP DRAWINGS OR MANUFACTURER'S DATA SHEETS DO NOT RELIEVE THE CONTRACTOR FROM COMPLIANCE WITH REQUIREMENTS OF THE PLANS AND SPECIFICATIONS. THE ENGINEER'S REVIEW IS FOR GENERAL CONFORMANCE WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR CONFIRMING AND DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR CONFIRMING AND CORRECTING ALL QUANTITIES AND DIMENSIONS, SELECTING FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION, AND COORDINATING HIS WORK WITH THAT OF ALL OTHER CONTRACTORS.
4. REFER T



SCHEDULE OF FOOTINGS

MARK	SIZE	DEPTH	REINFORCEMENT	REMAKRS
F1	2'-6"x2'-6"	24"	4+4-#4	
F2	3'-0"x3'-0"	24"	5+5-#4	
F3	3'-6"x3'-6"	24"	6+6-#4	
F4	4'-0"x4'-0"	24"	7+7-#4	
F5	4'-6"x4'-6"	24"	8+8-#4	
F6	5'-6"x5'-6"	24"	9+9-#4	
F7	6'-0"x3'-0"	24"	12+6-#4	
F8	REFER PLAN	24"	#4@6"OC.E.W. TOP & BOTTOM	
F9	REFER PLAN	24"	#4@6"OC.E.W. TOP & BOTTOM	

A S1 FOOTING LAYOUT PLAN
SCALE 1/8"=1'-0"

STATE OF TEXAS
MIRZA TAHIR BAIG
82577
REGISTERED PROFESSIONAL ENGINEER

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY MIRZA TAHIR BAIG, P.E., #82577 ON 01/03/2013

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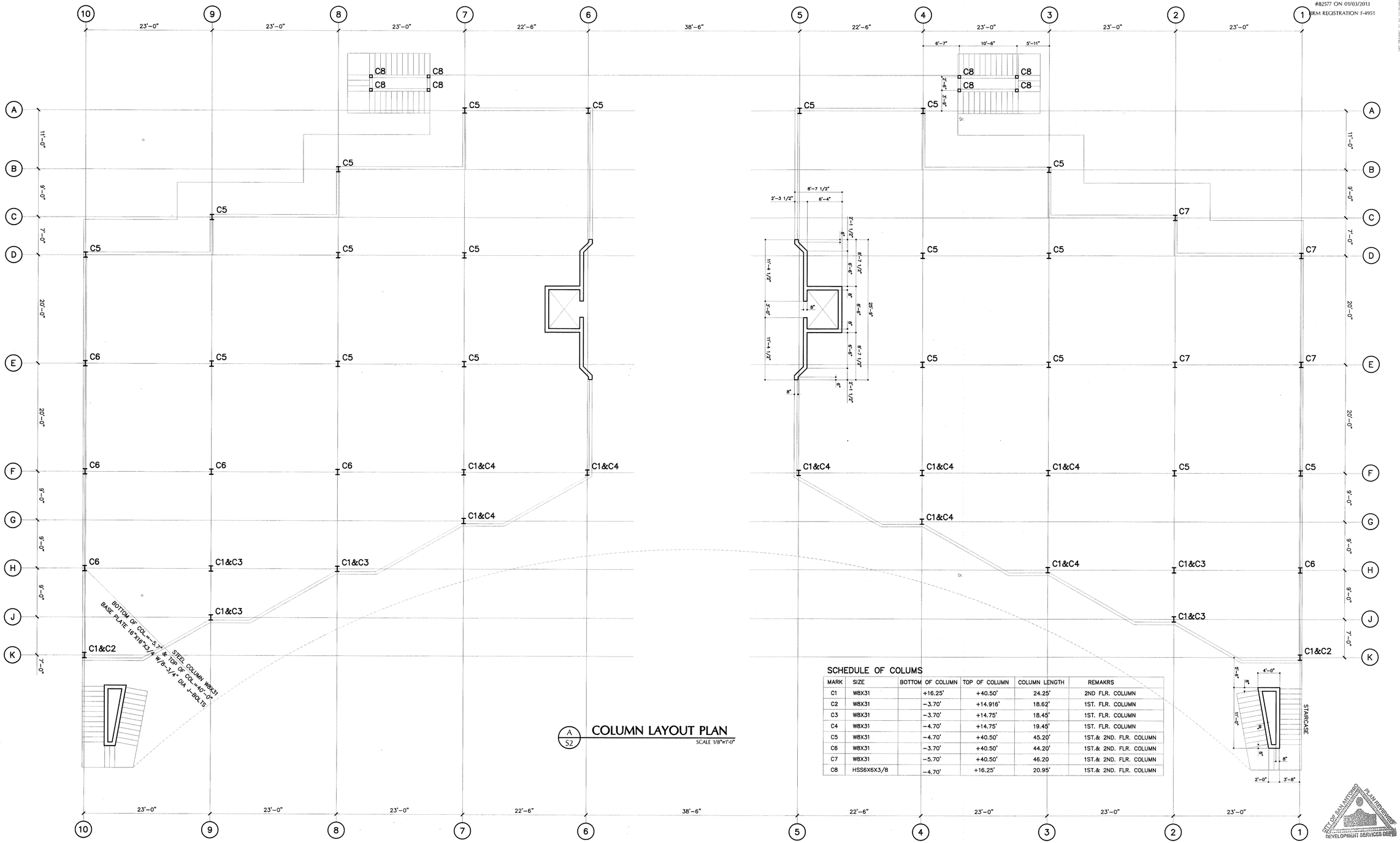
Project :
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226 & 238 TEXAS LOOP 1604
SAN ANTONIO, TEXAS 78232

Title :
FOOTING LAY-OUT PLAN

PROJECT
28001

SHEET
S1

CITY OF SAN ANTONIO PLAN REVIEWED DEVELOPMENT SERVICES



A S2 COLUMN LAYOUT PLAN

SCALE 1/8"=1'-0"

SCHEDULE OF COLUMS

MARK	SIZE	BOTTOM OF COLUMN	TOP OF COLUMN	COLUMN LENGTH	REMAKRS
C1	W8X31	+16.25'	+40.50'	24.25'	2ND FLR. COLUMN
C2	W8X31	-3.70'	+14.916'	18.62'	1ST. FLR. COLUMN
C3	W8X31	-3.70'	+14.75'	18.45'	1ST. FLR. COLUMN
C4	W8X31	-4.70'	+14.75'	19.45'	1ST. FLR. COLUMN
C5	W8X31	-4.70'	+40.50'	45.20'	1ST.& 2ND. FLR. COLUMN
C6	W8X31	-3.70'	+40.50'	44.20'	1ST.& 2ND. FLR. COLUMN
C7	W8X31	-5.70'	+40.50'	46.20	1ST.& 2ND. FLR. COLUMN
C8	HSS6X6X3/8	-4.70'	+16.25'	20.95'	1ST.& 2ND. FLR. COLUMN

STATE OF TEXAS
MIRZA TAHIR BAIG
82577
REGISTERED
PROFESSIONAL ENGINEER

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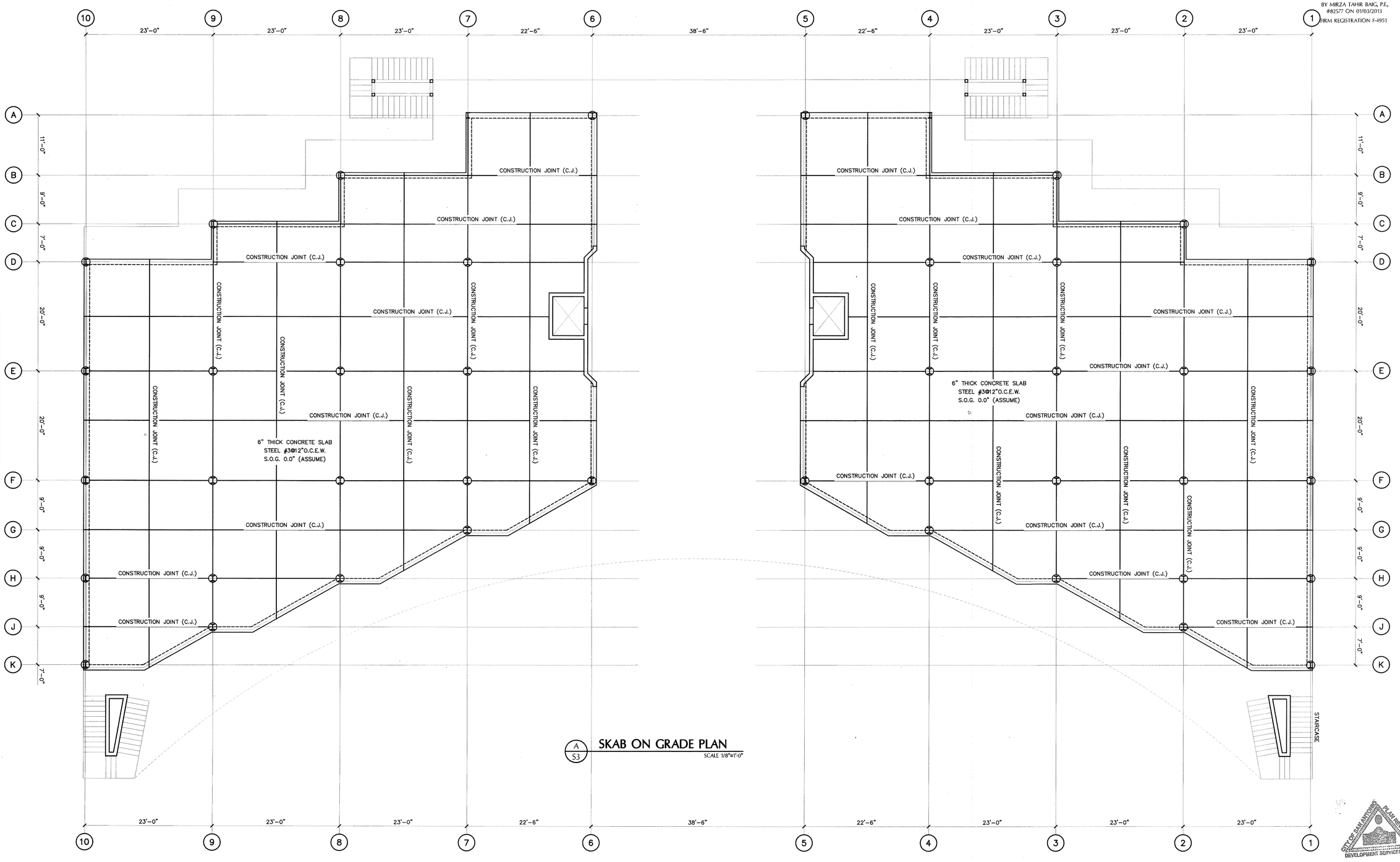
Project :
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SAN ANTONIO, TEXAS 78232

Title :
COLUMN LAY-OUT PLAN

PROJECT 28001

SHEET S2

CITY OF SAN ANTONIO PLAN REVIEWER DEVELOPMENT SERVICES DEPT



A S3 SKAB ON GRADE PLAN

SCALE 1/8"=1'-0"

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Project :
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226 & 238 TEXAS LOOP 1604
SAN ANTONIO, TEXAS 78232

Title :
SLAB ON GRADE PLAN

PROJECT
28001

SHEET
S3

CITY OF SAN ANTONIO
PLAN REVIEWED
DEVELOPMENT SERVICES DEPT.



A S4 SECOND FLOOR FRAMING PLAN

SCALE 1/8"=1'-0"

STATE OF TEXAS
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82577
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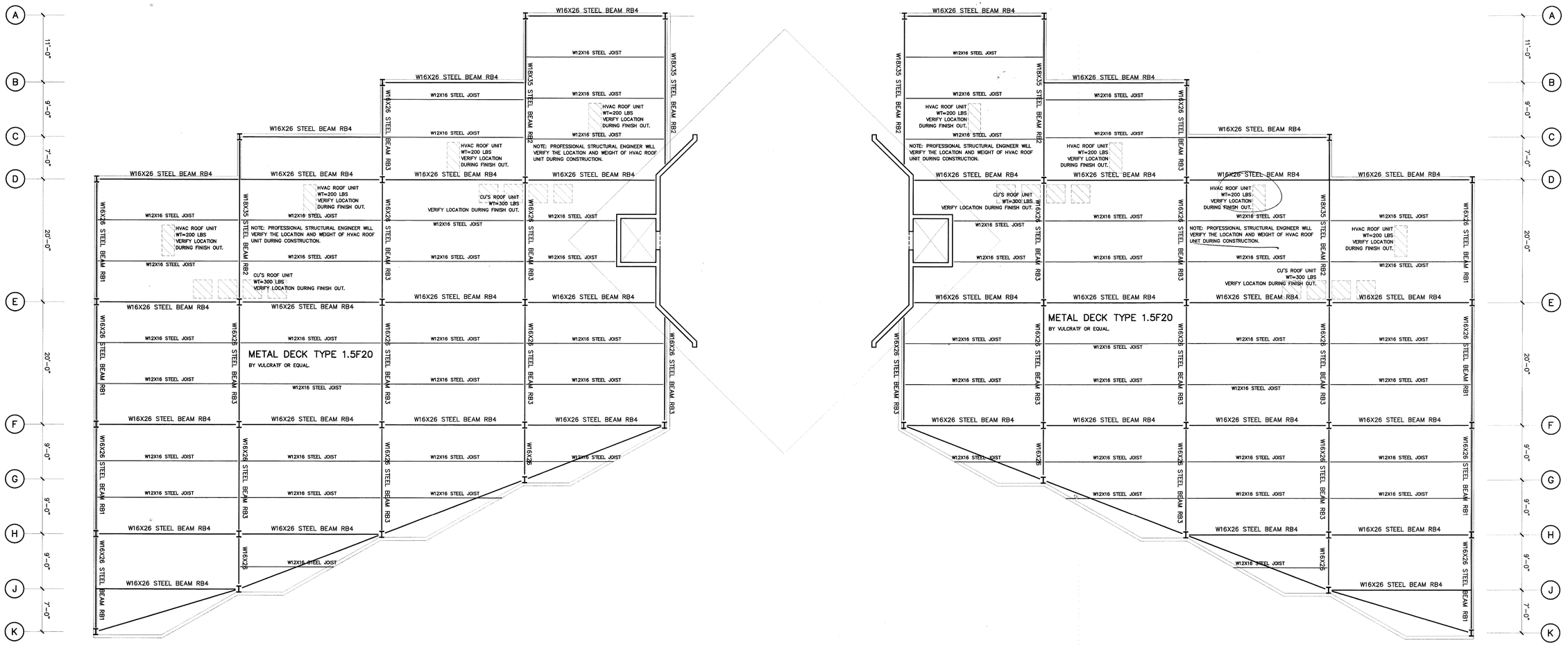
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Title :
SECOND FLOOR FRAMING PLAN

PROJECT 28001

SHEET S4

CITY OF SAN ANTONIO PLAN REVIEWED DEVELOPMENT SERVICES DEPT



A S5 ROOF FRAMING PLAN

SCALE 1/8"=1'-0"

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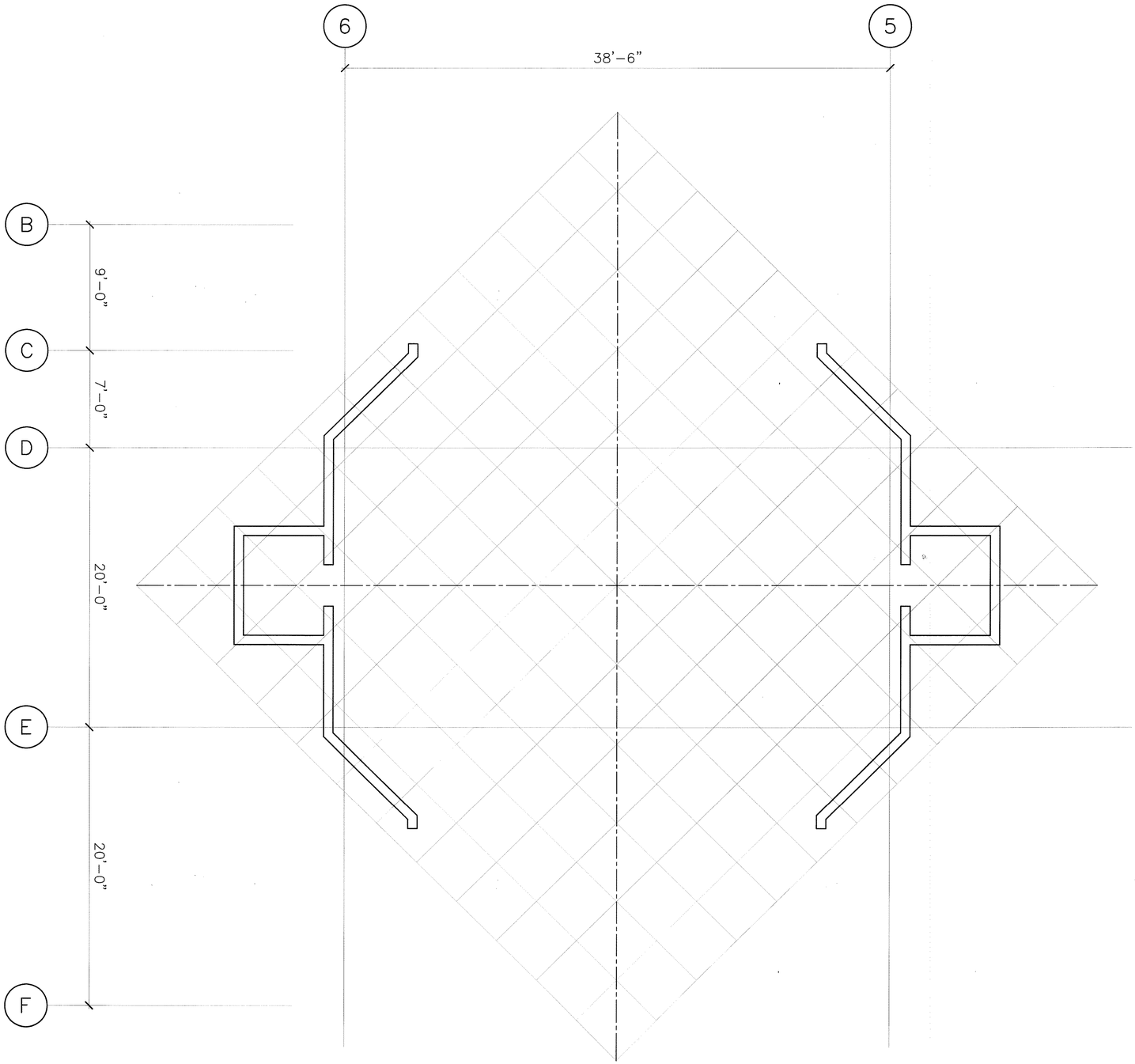
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Title:
ROOF FRAMING PLAN

PROJECT 28001

SHEET S5

CITY OF SAN ANTONIO PLAN REVIEWED DEVELOPMENT SERVICES DEPT



A/S6 UPPER ROOF FRAMING PLAN
SCALE 1/4"=1'-0"

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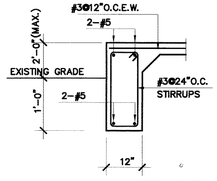
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Title :
UPPER ROOF FRAMING PLAN

PROJECT
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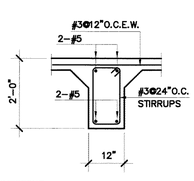
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CITY OF SAN ANTONIO PLAN REVIEWED DEVELOPMENT SERVICES DEPT

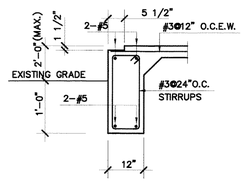


NOTE BOTTOM OF BEAM REST ON 6" INTO LIMESTONE

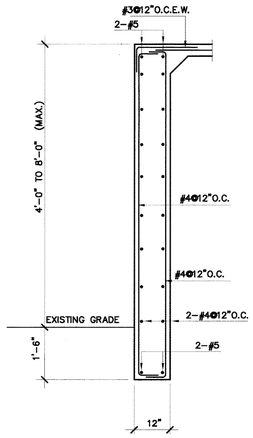
1 S7 SECTION
SCALE 1/2"=1'-0"



2 S7 SECTION
SCALE 1/2"=1'-0"

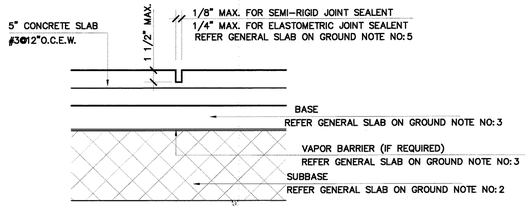


3 S7 SECTION
SCALE 1/2"=1'-0"



NOTE BOTTOM OF BEAM REST ON 6" INTO LIMESTONE

4 S7 SECTION
SCALE 1/2"=1'-0"



5 S7 SECTION
SCALE 1/2"=1'-0"

SLAB ON GROUND:

1. SOIL SUPPORT SYSTEM : THE SOIL SUPPORT SYSTEM SHOULD BE WELL DRAINED AND PROVIDE ADEQUATE AND UNIFORM LOAD–BEARING SUPPORT.

2. BASE MATERIAL : THE MATERIAL SHOULD BE A COMPACTIBLE, EASY–TO–TRIM,GRANULAR FILL THAT WILL REMAIN STABLE AND SUPPORT CONSTRUCTION TRAFFIC. A CLEAN, FINE–GRADED MATERIAL WITH AT LEAST 10 PERCENT TO 30 PERCENT OF PARTICLES PASSING A NO:100 SIEVE BUT NOT CONTAMINATED WITH CLAY, SILT, OR ORGANIC MATERIAL IS RECOMMENDED.

3. VAPOR BARRIER:IF A VAPOR BARRIER OR VAPOR RETARDER IS REQUIRED DUE TO LOCAL CONDITIONS, THESE PRODUCTS SHOULD BE PLACED UNDER A MINIMUM OF 4" OF TRIMABLE, COMPACTIBLE, GRANULAR FILL (NOT SAND). A USUALLY GRADED FROM 1 1/2" TO 2" DOWN TO ROCK DUST, IS SUITABLE. FOLLOWING COMPACTION, THE SURFACE CAN BE CHOCKED OFF WITH A FINE GRADED MATERIAL TO REDUCE FRICTION BETWEEN THE BASE MATERIAL AND THE SLAB. THE RECOMMENDED POLYETHYLENE FILM A THICKNESS OF NOT LESS THAN 10 MILS BE USED.

4. SAW–CUT JOINTS: THE RECOMMENDED SAW CUTTING SHOULD BE PERFORMED (i) BEFORE CONCRETE STARTS TO COOL, (ii) AS SOON AS THE CONCRETE SURFACE IS FIRM ENOUGH TO BE TORN OR DAMAGED BY THE BLADE, AND (iii) BEFORE RANDOM – DRYING – SHRINKAGE CRACKS CAN FORM IN THE CONCRETE SLAB. IF SAWING IS UNDULY DELAYED,THE CONCRETE CAN CRACK RANDOMLY BEFORE IT IS SAWED. ADDITIONALLY, DELAY CAN GENERATE CRACKS THAT RUN OFF FROM THE SAW BLADE TOWARD THE EDGE OF THE SLAB AT AN OBTUSE OR SKEWED ANGLE TO THE SAW CUT.

5. JOINT FILLING : WHERE THERE ARE WET CONDITIONS, HYGIENIC AND DUST–CONTROL REQUIREMENTS, OR WHERE THE FLOOR IS SUBJECTED TO TRAFFIC BY SMALL, HARD–WHEELED VEHICLES SUCH AS FORKLIFTS, CONTRACTION & CONSTRUCTION JOINTS SHOULD BE FILLED AND PROTECTED WITH A SEMIRIGID EPOXY THAT GIVES ADEQUATE SUPPORT TO THE JOINT EDGES AND HAS SUFFICIENT RESISTANCE TO WEAR.

STATE OF TEXAS
MIRZA TAHIR BAIG
82577
REGISTERED PROFESSIONAL ENGINEER

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY MIRZA TAHIR BAIG, P.E., #82577 ON 01/03/2013

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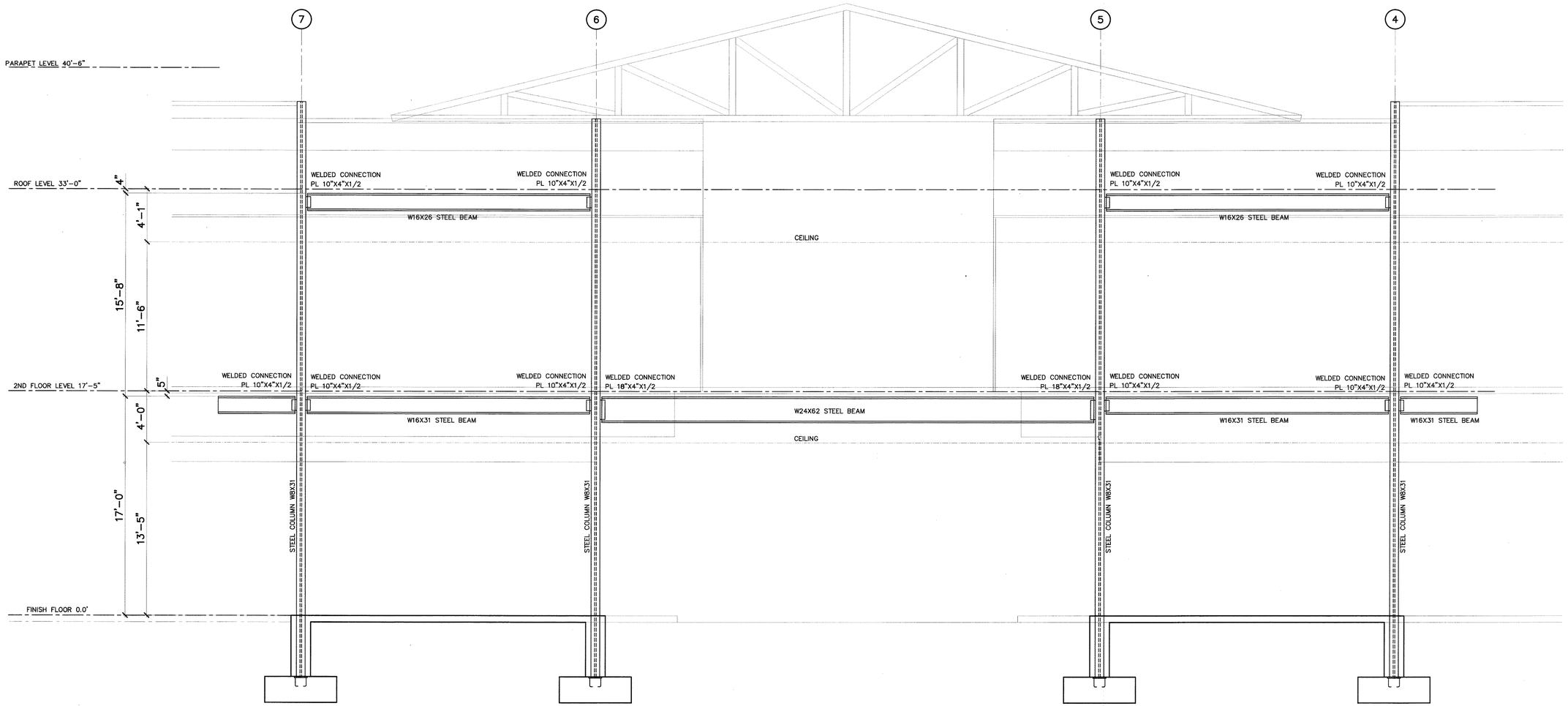
Project :
NORTH LOOP RETAIL CENTER
226 & 238 TEXAS LOOP 1604
SAN ANTONIO, TEXAS 78232

Title :
FOUNDATION DETAILS

PROJECT
28001

SHEET
S7

CITY OF SAN ANTONIO PLAN REVIEWER DEVELOPMENT SERVICES DEPT



A/S8 STEEL FRAME ELEVATION ALONG GRID NO:A

SCALE 1/4"=1'-0"

STATE OF TEXAS
MIRZA TAHIR BAIG
82577
REGISTERED PROFESSIONAL ENGINEER

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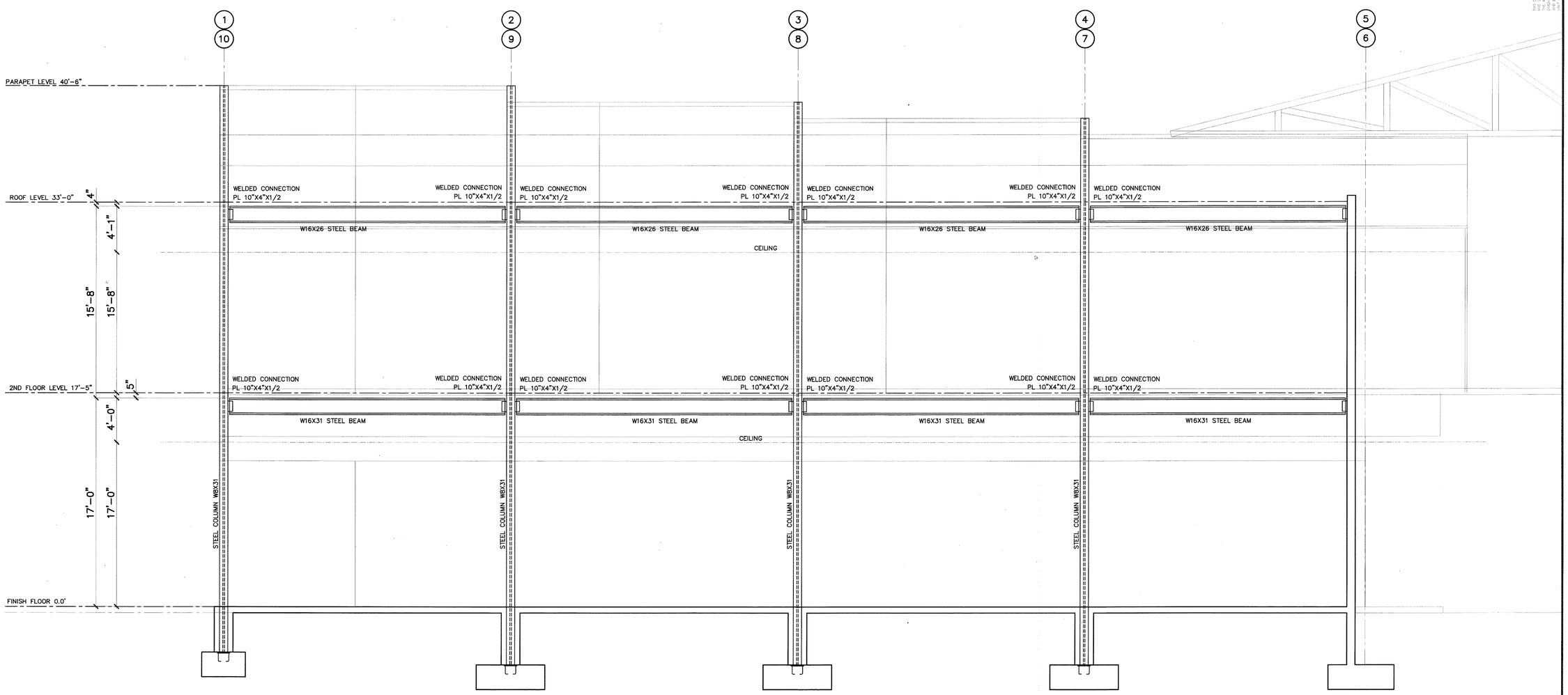
Project :
NORTH LOOP RETAIL CENTER
226 & 238 TEXAS LOOP 1604
SAN ANTONIO, TEXAS 78232

Title :
STEEL FRAME ELEVATION

PROJECT 28001

SHEET S8

CITY OF SAN ANTONIO PLAN REVIEWED DEVELOPMENT SERVICES DEPT



A/S9 STEEL FRAME ELEVATION ALONG GRID NO:D & E

SCALE 1/4"=1'-0"

STATE OF TEXAS
MIRZA TAHIR BAIG
82577
REGISTERED PROFESSIONAL ENGINEER

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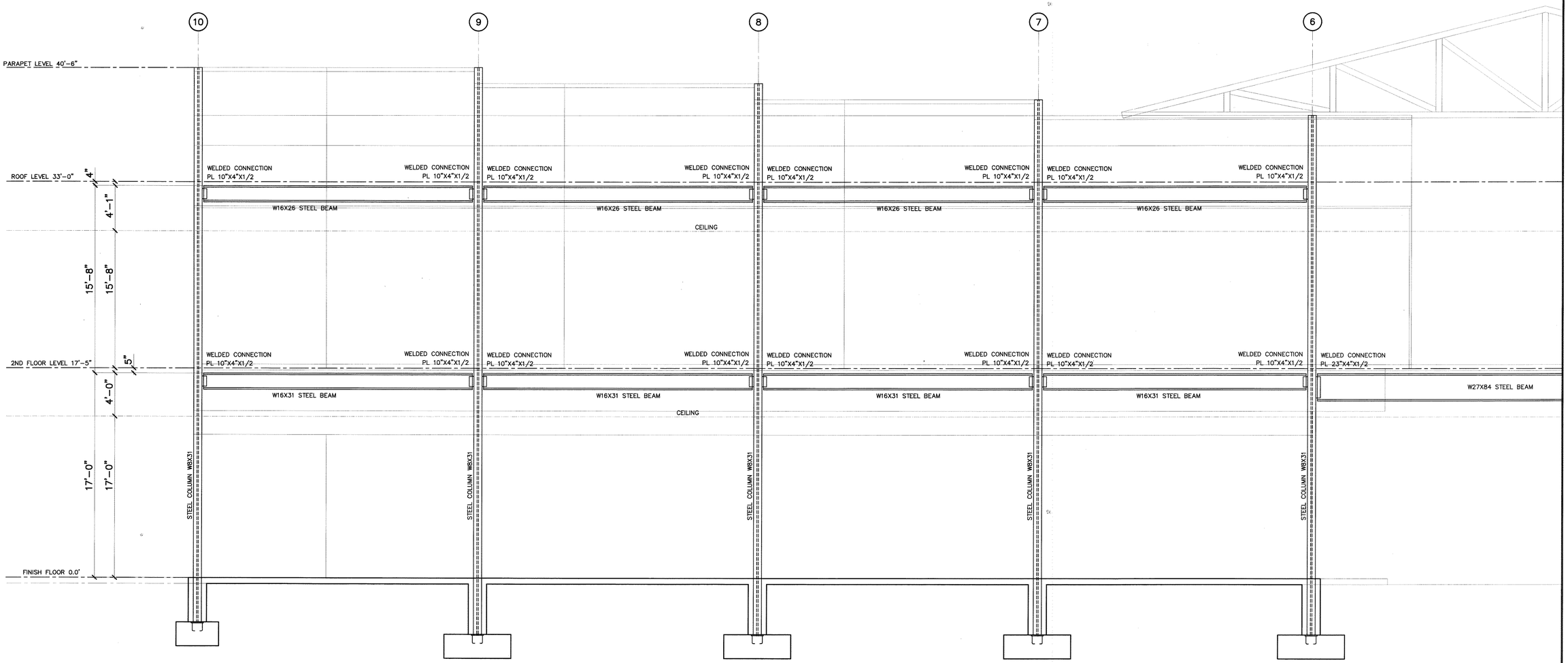
Project :
NORTH LOOP RETAIL CENTER
226 & 238 TEXAS LOOP 1604
SAN ANTONIO, TEXAS 78232

Title :
STEEL FRAME ELEVATION

PROJECT 28001

SHEET S9

CITY OF SAN ANTONIO DEVELOPMENT SERVICES



A/S10 STEEL FRAME ELEVATION ALONG GRID NO:F

SCALE 1/4"=1'-0"

STATE OF TEXAS
MIRZA TAHIR BAIG
82577
REGISTERED PROFESSIONAL ENGINEER

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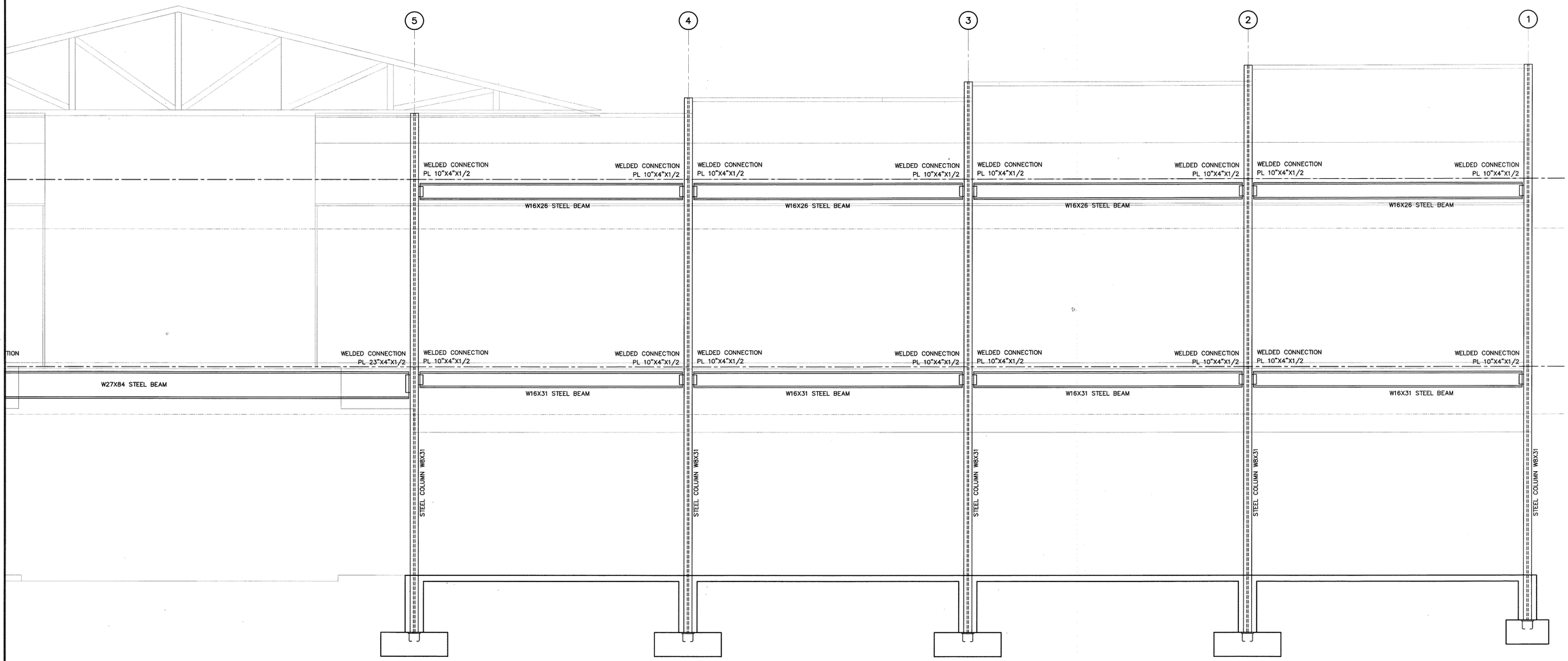
Project :
NORTH LOOP RETAIL CENTER
226 & 238 TEXAS LOOP 1604
SAN ANTONIO, TEXAS 78232

Title :
STEEL FRAME ELEVATION

PROJECT 28001

SHEET S10

CITY OF SAN ANTONIO PLANS REVIEWED DEVELOPMENT SERVICES DEPT



A/S11 STEEL FRAME ELEVATION ALONG GRID NO:F

SCALE 1/4"=1'-0"

STATE OF TEXAS
MIRZA TAHIR BAIG
82577
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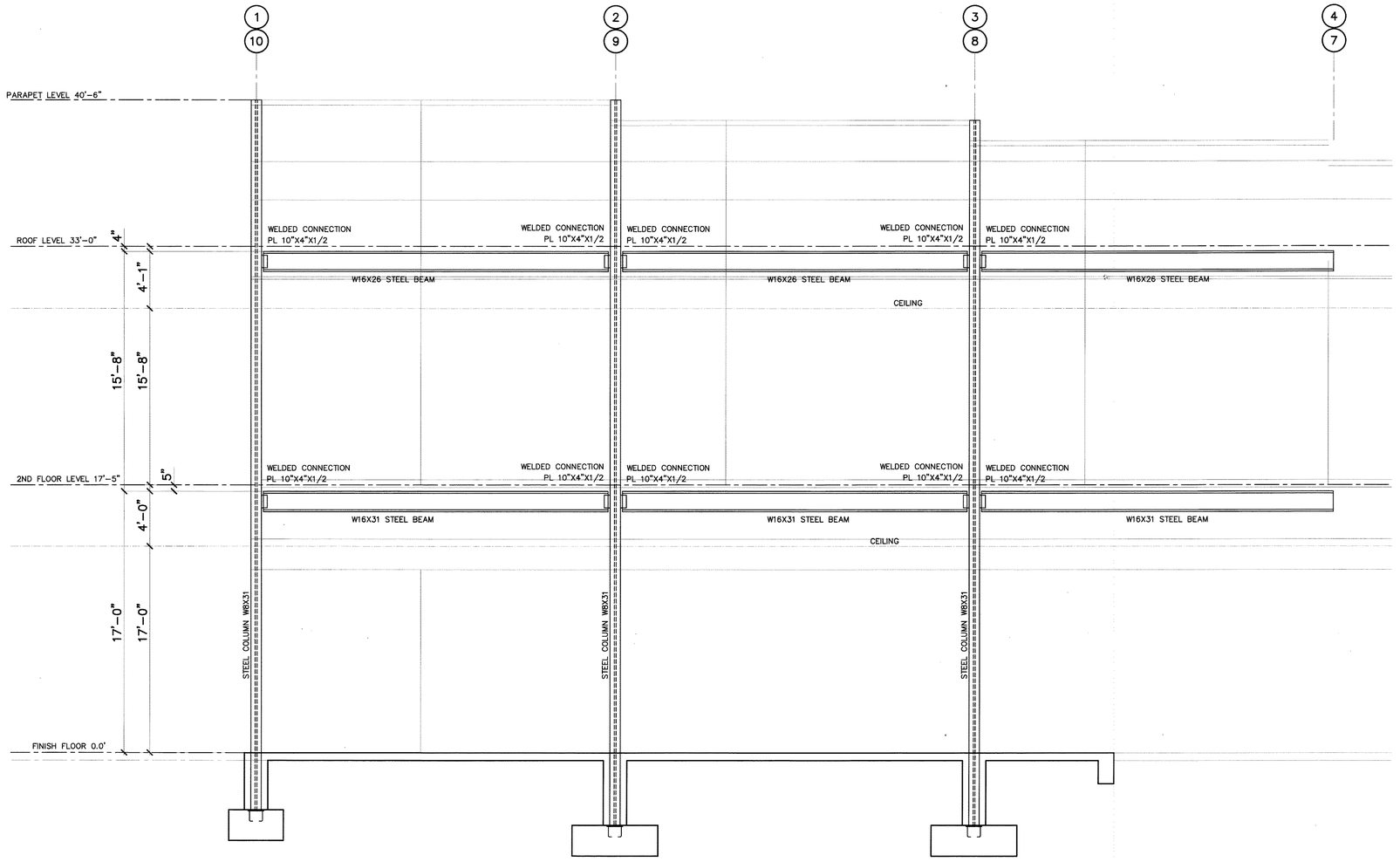
Project :
NORTH LOOP RETAIL CENTER
226 & 238 TEXAS LOOP 1604
SAN ANTONIO, TEXAS 78232

Title :
STEEL FRAME ELEVATION

PROJECT
28001

SHEET
S11

CITY OF SAN ANTONIO
PLANS REVIEWED
DEVELOPMENT SERVICES DEPT



A/S12 STEEL FRAME ELEVATION ALONG GRID NO:H

SCALE 1/4"=1'-0"

STATE OF TEXAS
MIRZA TAHIR BAIG
82577
REGISTERED
PROFESSIONAL ENGINEER

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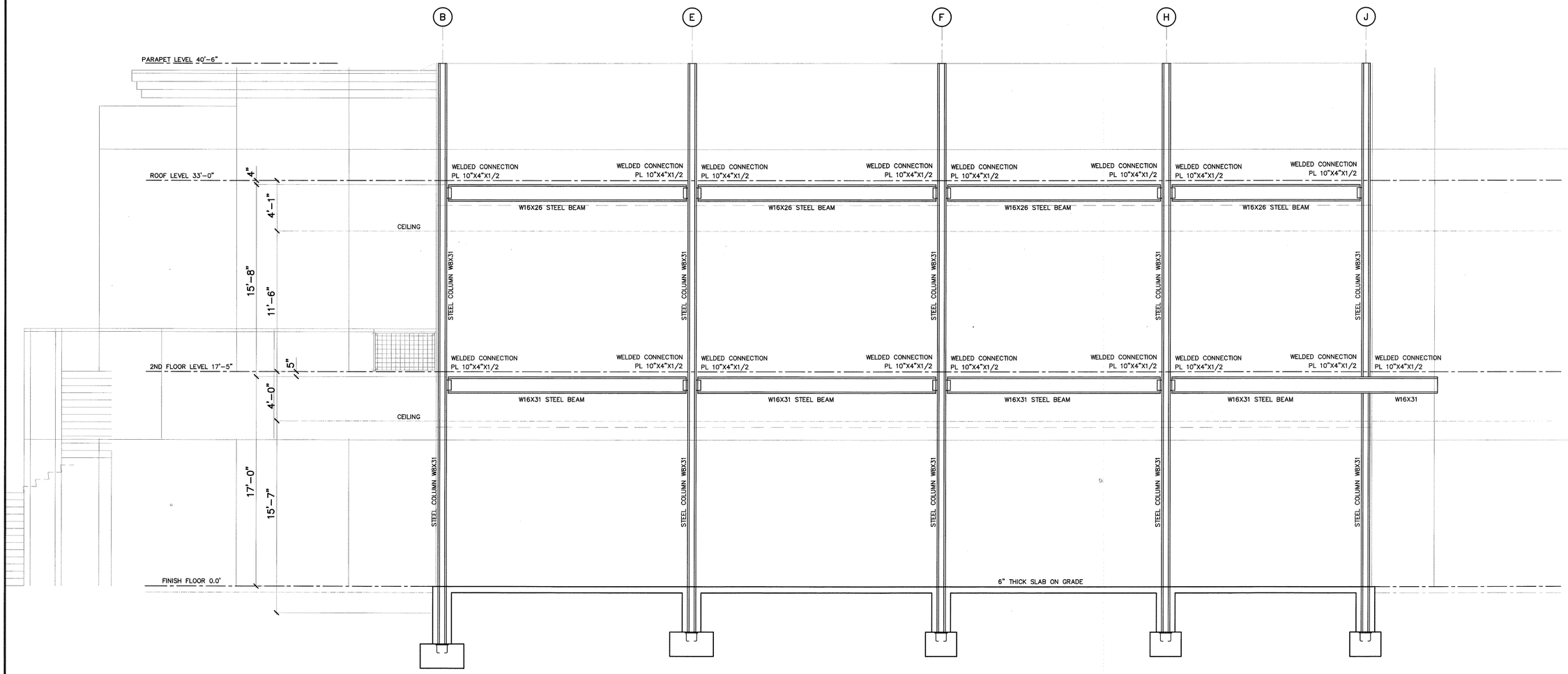
Project :
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226 & 238 TEXAS LOOP 1604
SAN ANTONIO, TEXAS 78232

Title :
STEEL FRAME ELEVATION

PROJECT 28001

SHEET S12

CITY OF SAN ANTONIO PLAN REVIEWED DEVELOPMENT SERVICES



A / S13 STEEL FRAME ELEVATION ALONG GRID NO:1 & 10

SCALE 1/4"=1'-0"

STATE OF TEXAS
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82577
REGISTERED PROFESSIONAL ENGINEER

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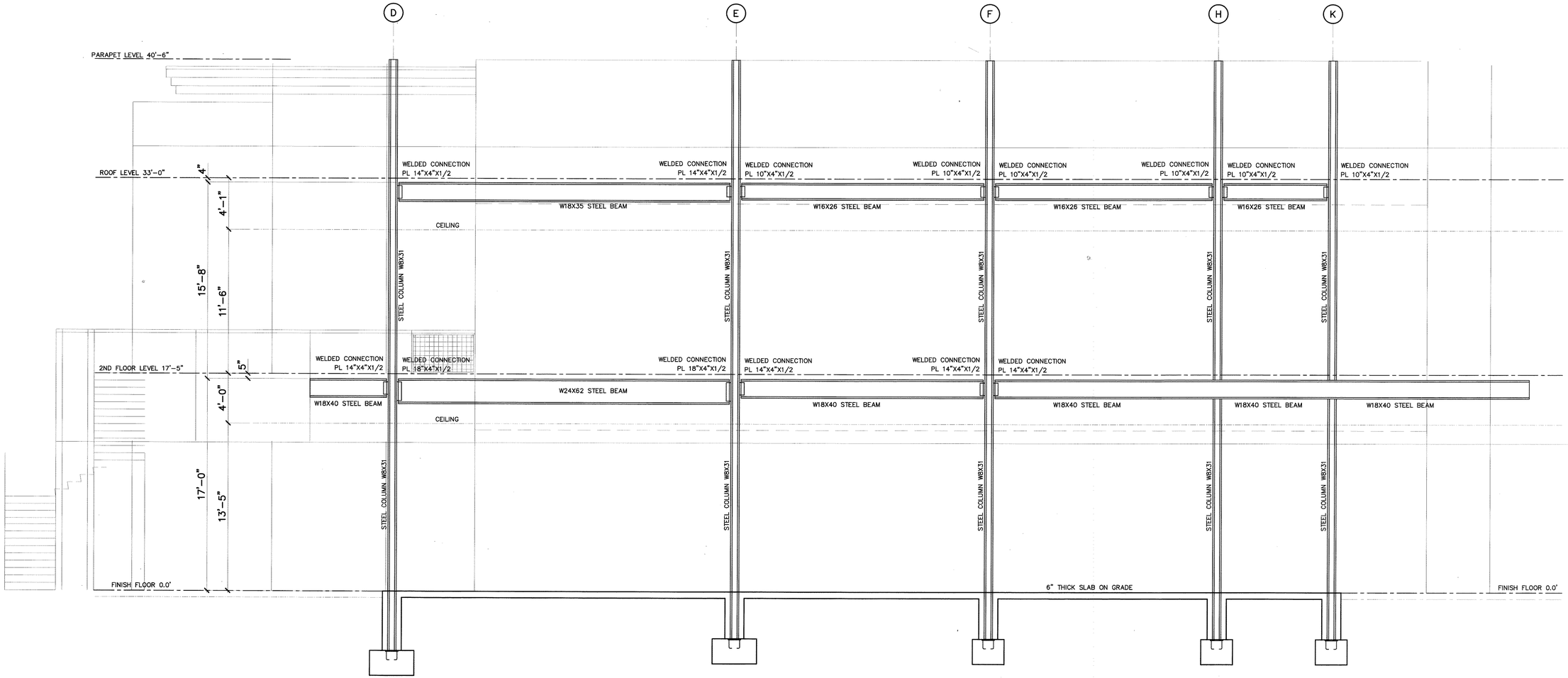
Project:
NORTH LOOP RETAIL CENTER
226 & 238 TEXAS LOOP 1604
SAN ANTONIO, TEXAS 78232

Title:
STEEL FRAME ELEVEATION

PROJECT 28001

SHEET S13

CITY OF SAN ANTONIO PLAN REVIEWED DEVELOPMENT SERVICES



A / S14 STEEL FRAME ELEVATION ALONG GRID NO:2 & 9

SCALE 1/4"=1'-0"

STATE OF TEXAS
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82577
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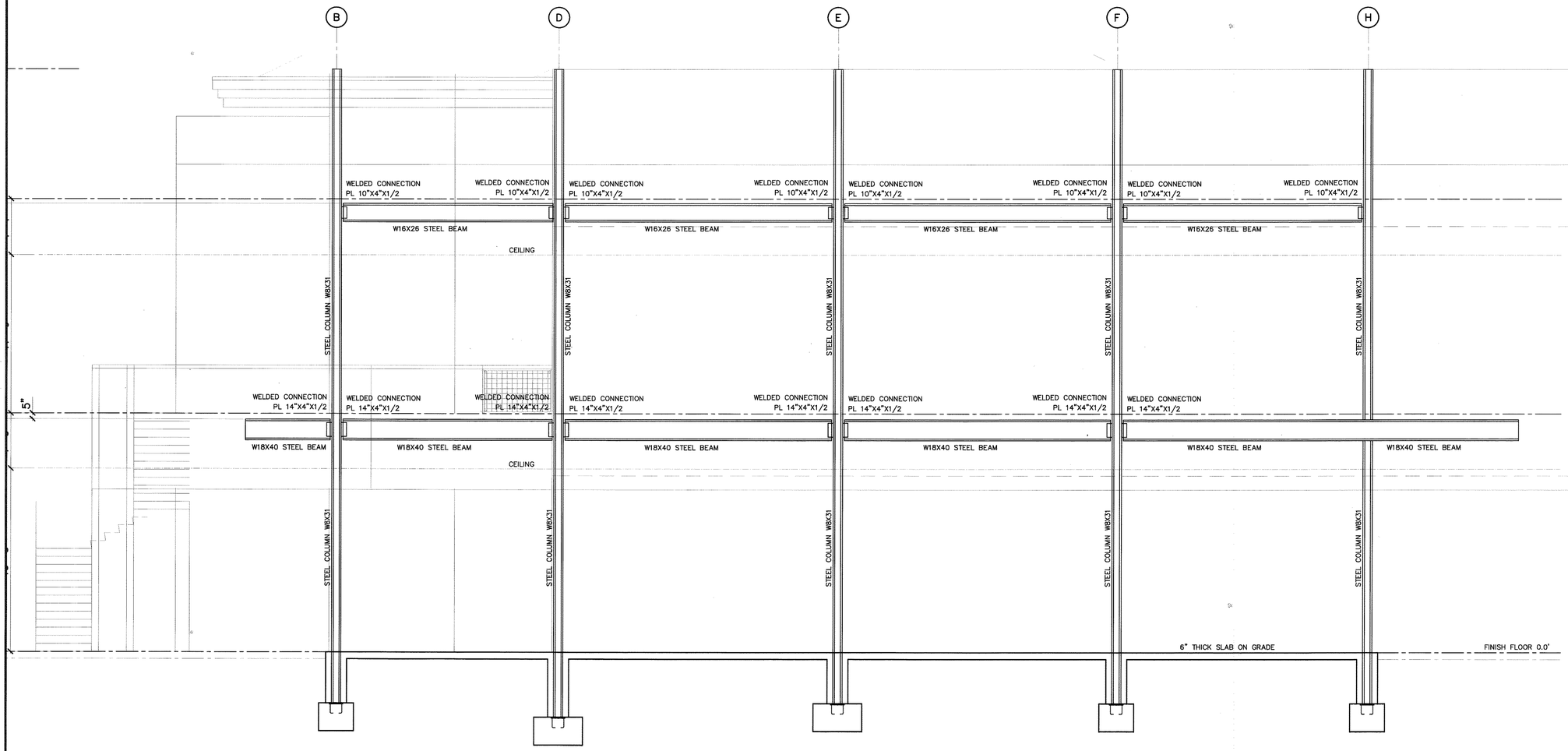
Project :
NORTH LOOP RETAIL CENTER
226 & 238 TEXAS LOOP 1604
SAN ANTONIO, TEXAS 78232

Title :
STEEL FRAME ELEVATION

PROJECT
28001

SHEET
S14

CITY OF SAN ANTONIO PLAN REVIEWER DEVELOPMENT SERVICES DEPT



A / S15 STEEL FRAME ELEVATION ALONG GRID NO:3 & 8

SCALE 1/4"=1'-0"

STATE OF TEXAS
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82577
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Project :
NORTH LOOP RETAIL CENTER
226 & 238 TEXAS LOOP 1604
SAN ANTONIO, TEXAS 78232

Title :
STEEL FRAME ELEVATION

PROJECT 28001

SHEET S15

CITY OF SAN ANTONIO PLAN REVIEWED DEVELOPMENT SERVICES DEPT



A / S16 STEEL FRAME ELEVATION ALONG GRID NO:4 & 7

SCALE 1/4"=1'-0"

STATE OF TEXAS
MIRZA TAHIR BAIG
82577
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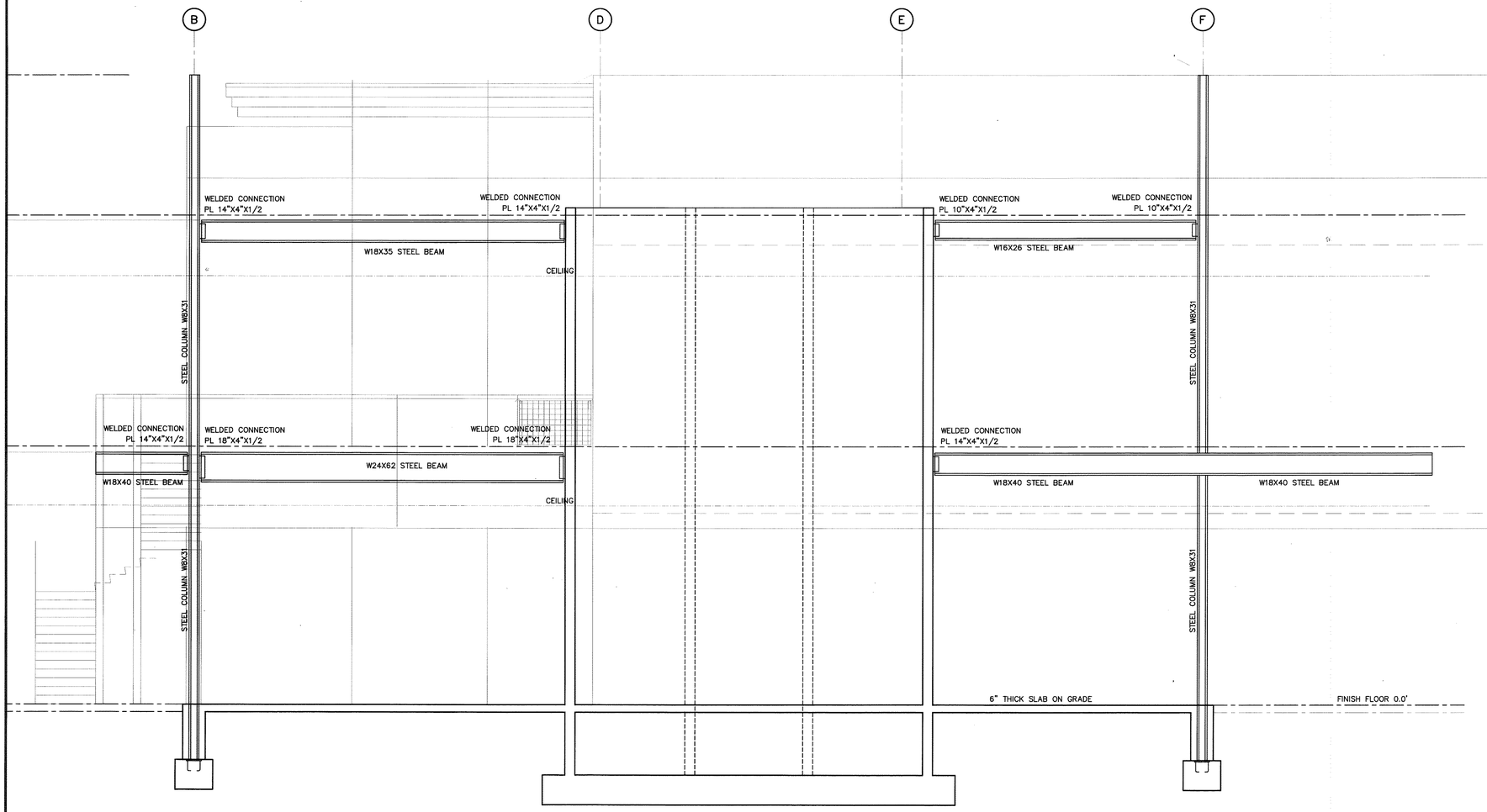
Project :
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226 & 238 TEXAS LOOP 1604
SAN ANTONIO, TEXAS 78232

Title :
STEEL FRAME ELEVATION

PROJECT
28001

SHEET
S16

CITY OF SAN ANTONIO PLAN REVIEWED DEVELOPMENT SERVICES DEPT



A / S17 STEEL FRAME ELEVATION ALONG GRID NO:5 & 6

SCALE 1/4"=1'-0"

STATE OF TEXAS
MIRZA TAHIR BAIG
82577
REGISTERED
PROFESSIONAL ENGINEER

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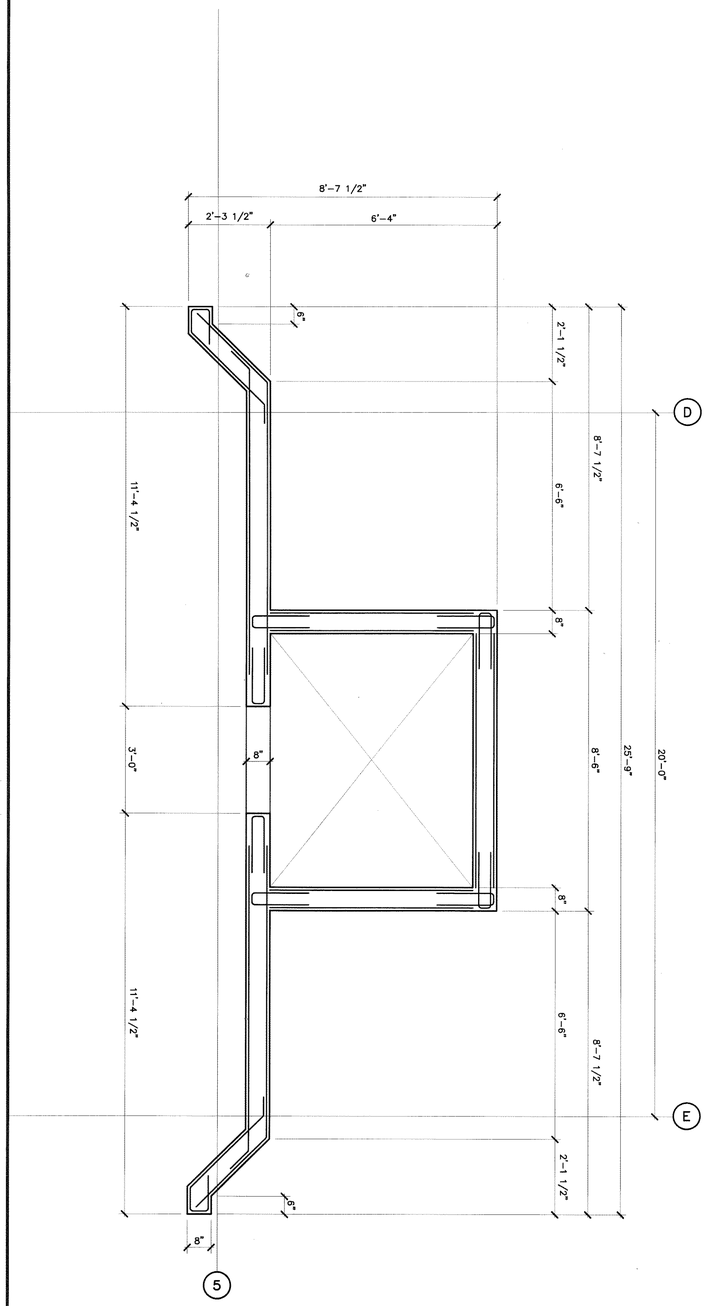
Project :
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226 & 238 TEXAS LOOP 1604
SAN ANTONIO, TEXAS 78232

Title :
STEEL FRAME ELEVATION

PROJECT
28001

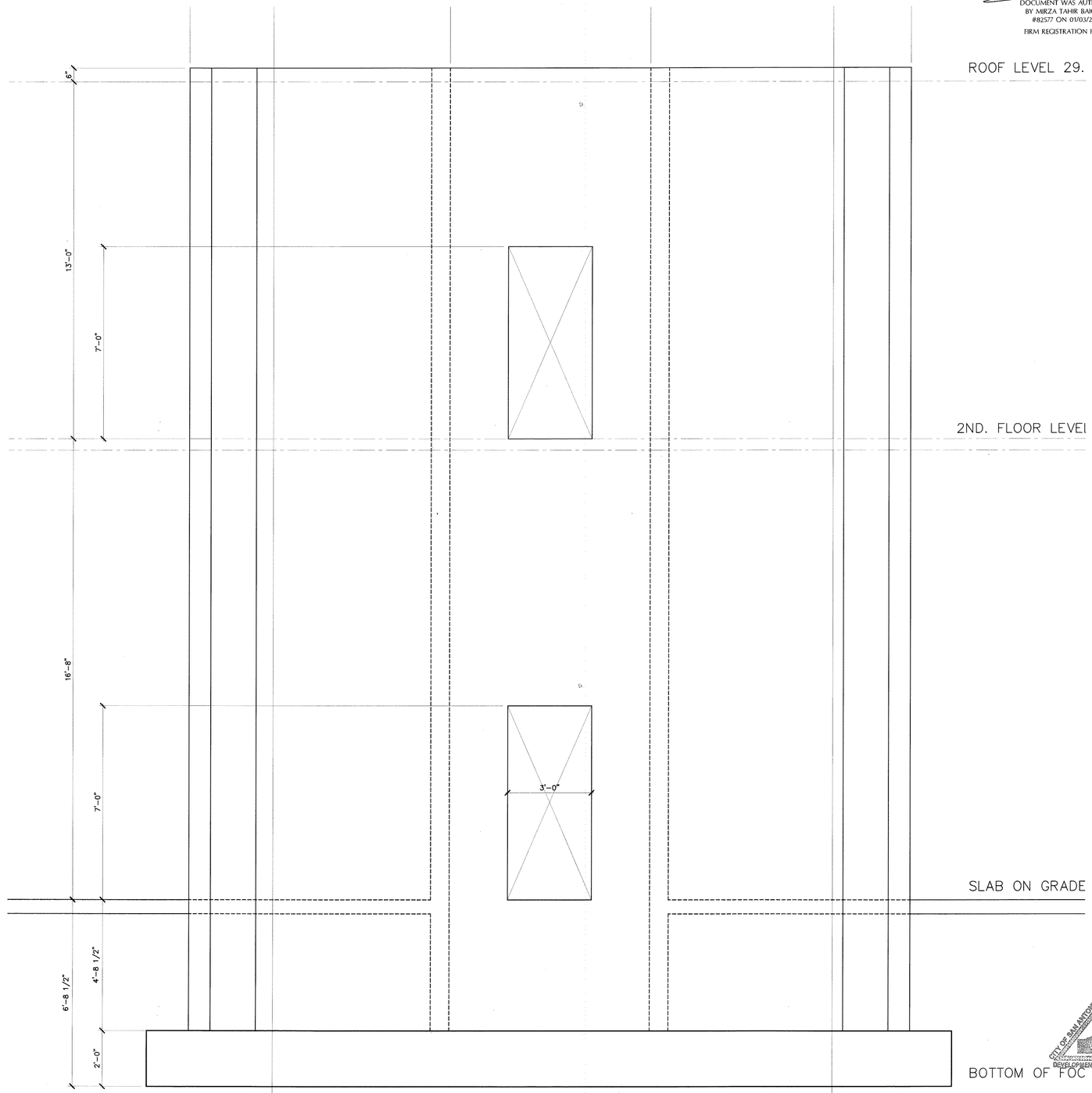
SHEET
S17

CITY OF SAN ANTONIO
DEVELOPMENT SERVICES DEPT
PLAN REVIEWED



A S20 ELEVATOR WALL PLAN

SCALE 1/2"=1'-0"



STATE OF TEXAS
MIRZA TAHIR BAIG
82577
REGISTERED PROFESSIONAL ENGINEER

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Revision	Description	Date	Drawn
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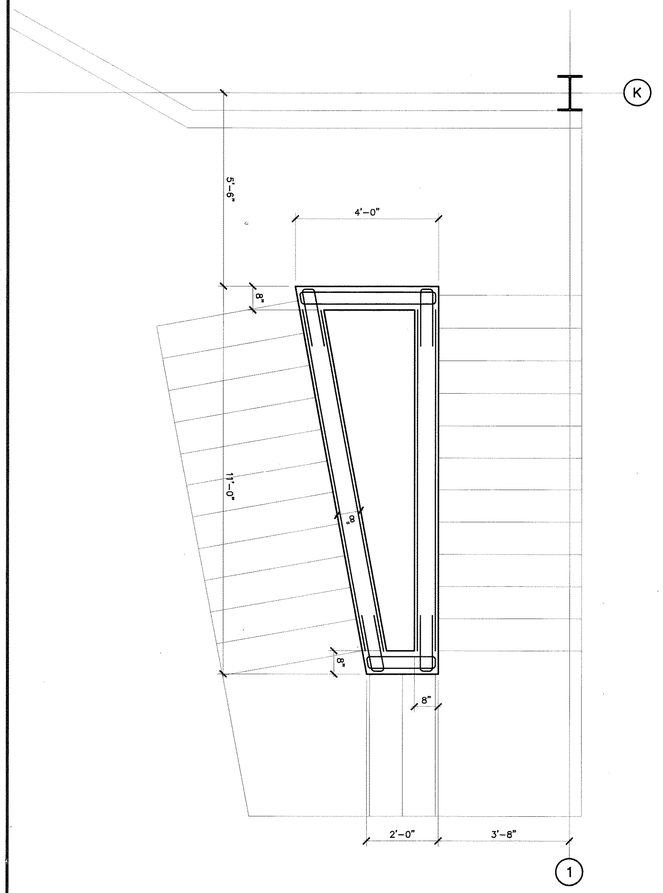
Project :
NORTH LOOP RETAIL CENTER
226 & 238 TEXAS LOOP 1604
SAN ANTONIO, TEXAS 78232

Title :
ELEVATOR CONCRETE WALL

PROJECT 28001

SHEET S18

CITY OF SAN ANTONIO PLAN REVIEWED DEVELOPMENT SERVICES DEPT



A S21 STAIRCASE CONCRETE WALL PLAN

SCALE 1/2"=1'-0"

STATE OF TEXAS
MIRZA TAHIR BAIG
82577
REGISTERED PROFESSIONAL ENGINEER

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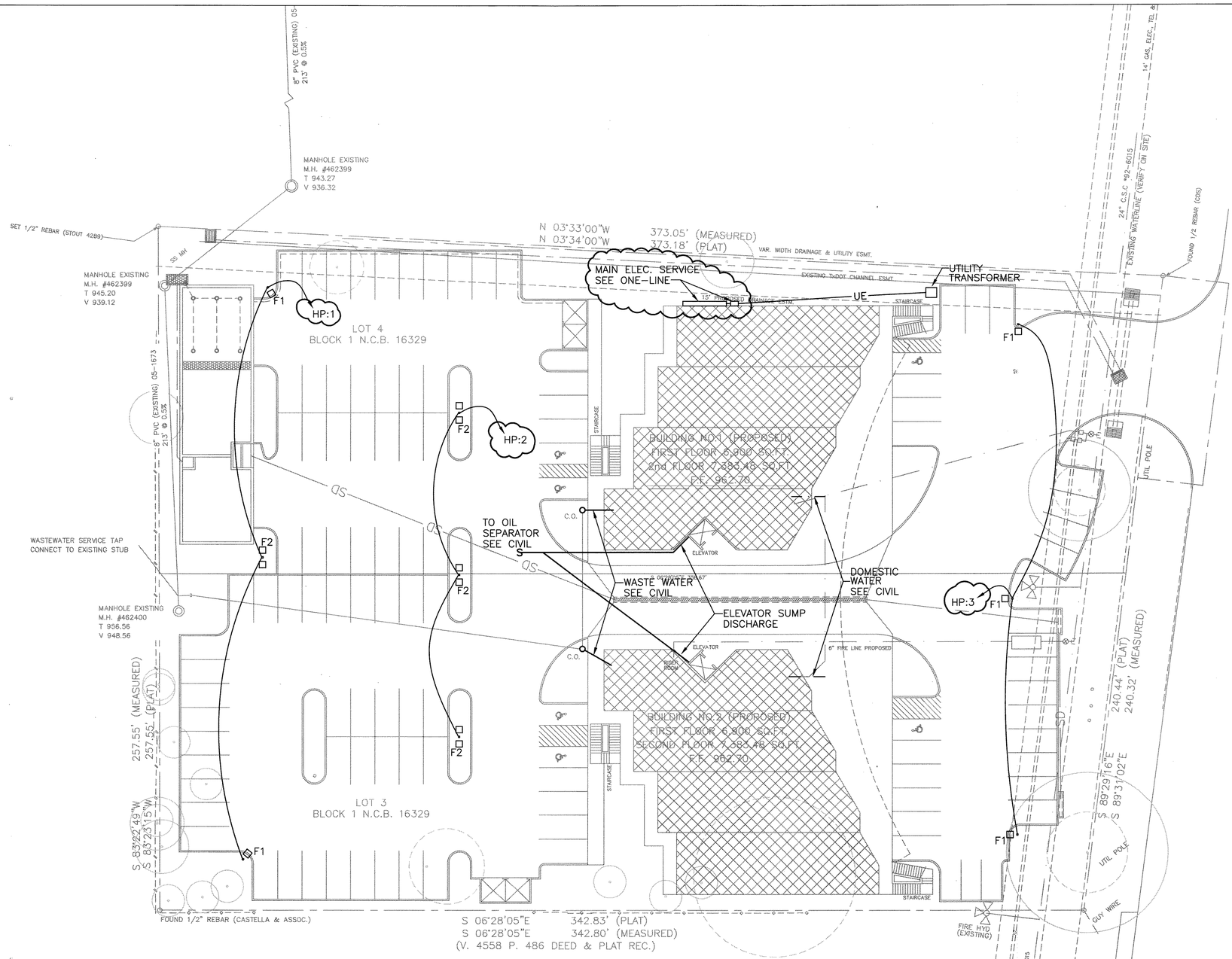
Project :
NORTH LOOP RETAIL CENTER
226 & 238 TEXAS LOOP 1604
SAN ANTONIO, TEXAS 78232

Title :
STAIRCASE CONCRETE WALL

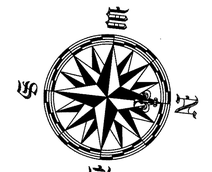
PROJECT 28001

SHEET S19

CITY OF SAN ANTONIO PLAN REVIEWED DEVELOPMENT SERVICES DEPT



1 ELECTRICAL/PLUMBING SITE PLAN
SCALE: 1" = 20'-0"



SCALE 1"=20'

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REVISION #2 - 04/25/13	
REVISION #3 - 05/06/13	
REVISION #4 - 05/13/13	
REVISION #5 - 05/16/13	

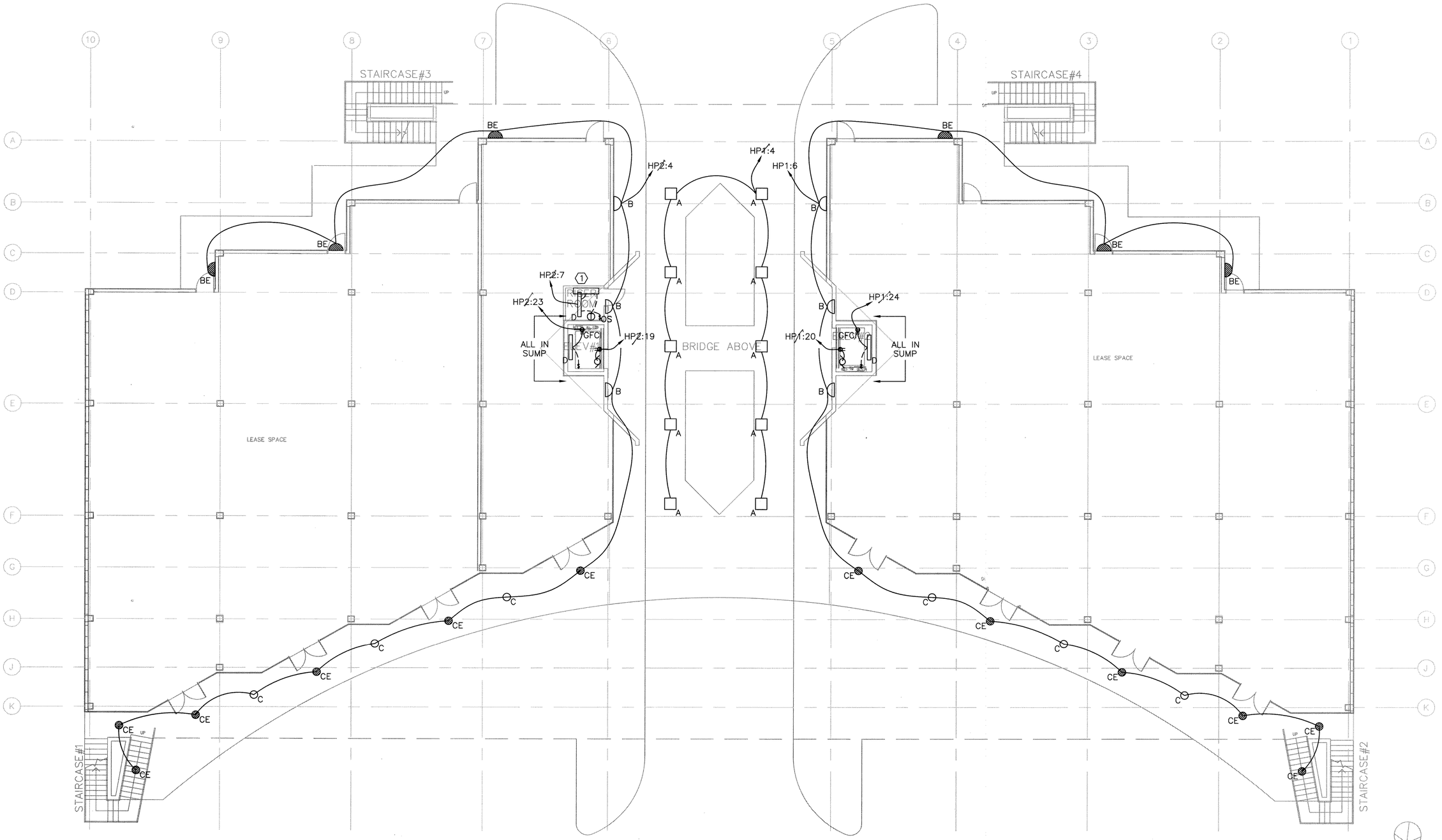
STATE OF TEXAS
F. ALLEN PERRY
80130
REGISTERED
PROFESSIONAL ENGINEER

PROJECT NAME: NORTH LOOP RETAIL CENTER
PROJECT ADDRESS: 1604 & STONE OAK SAN ANTONIO, TX
SHEET TITLE: SITE PLAN

SHEET NUMBER

EP-1.0

CITY OF SAN ANTONIO PLAN VERIFIED
DEVELOPMENT SERVICES DEPT



KEYED NOTES:

1. CIRCUIT LIGHT AND WALL HEATER TO HP:7. CIRCUIT HEATER THROUGH LINE VOLTAGE THERMOSTAT. HEATER SHALL BE DAYTON 3UG01 WITH DAYTON 4PU48 THERMOSTAT.

TRUE NORTH

1 ELECTRICAL 1ST FLOOR PLAN

SCALE: 1/8" = 1'-0"

PLAN REVIEWED
CITY OF SAN ANTONIO
DEVELOPMENT SERVICES DEPT

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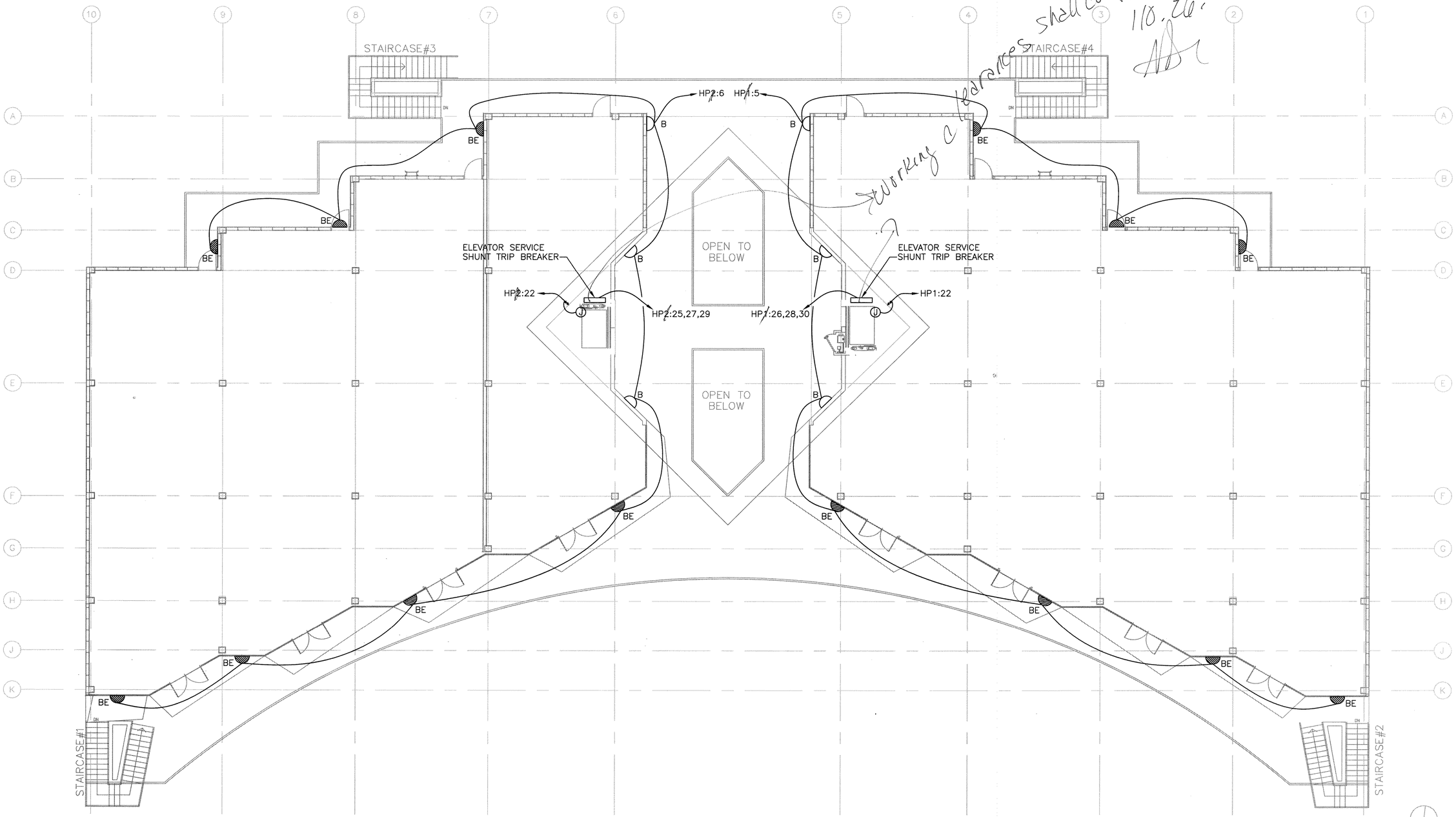
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REVISION #1 - 04/01/13	

STATE OF TEXAS
F. ALLEN PERRY
80130
REGISTERED PROFESSIONAL ENGINEER

PROJECT NAME: NORTH LOOP RETAIL CENTER
PROJECT ADDRESS: 1604 & STONE OAK SAN ANTONIO, TX
SHEET TITLE: ELECTRICAL FLOOR PLAN

SHEET NUMBER

E-2.0



1 ELECTRICAL 2ND FLOOR PLAN

SCALE: 1/8" = 1'-0"

Working drawings shall comply w/ 2011 NEC 1.10.26.

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STATE OF TEXAS
F. ALLEN PERRY
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REGISTERED PROFESSIONAL ENGINEER

PROJECT NAME: NORTH LOOP RETAIL CENTER
PROJECT ADDRESS: 1604 & STONE OAK SAN ANTONIO, TX
SHEET TITLE: ELECTRICAL FLOOR PLAN

SHEET NUMBER

E-2.1

CITY OF SAN ANTONIO PLAN REVIEWED DEVELOPMENT SERVICES DEPT

LIGHTING FIXTURE SCHEDULE

TYPE	MANUFACTURER AND CAT. NO.	LAMPS/FIXTURE NO.	LAMPS/FIXTURE TYPE	LAMPS/FIXTURE WATTS	VOLT	MOUNTING	DESCRIPTION
A	LITHONIA VRR-50M-WP-120-LPI	1	MH	50	120	RECESSED	RECESSED METAL HALIDE FIXTURE WITH POLYCARBONITE LENS
B	LITHONIA WSQ-42TRT-WT-MVOLT-LPI	1	TRT	42	120	SURFACE	FULL CUT-OFF WALL MOUNTED COMPACT FLUORESCENT
BE	LITHONIA WSQ-42TRT-WT-MVOLT-ELDW-LPI	1	TRT	42	120	SURFACE	FULL CUT-OFF WALL MOUNTED COMPACT FLUORESCENT WITH BATTERY BACK-UP
C	GOTHAM AF-1/42TRT-6AR-PCL-MVOLT	1	TRT	26	120	RECESSED	RECESSED COMPACT FLUOR. WITH POLYCARBONITE LENS
CE	GOTHAM AF-1/42TRT-6AR-PCL-MVOLT-EL	1	TRT	26	120	RECESSED	RECESSED COMPACT FLUOR. WITH POLYCARBONITE LENS AND BATTERY BACK-UP
D	LITHONIA VRI-232-MVOLT-GEB10IS	1	T8	32	120	SURFACE	WET LOCATION FLUORESCENT
E	NOT USED						
F1	LITHONIA KAD-250M-R4-120-SPD04-LPI	1	MH	250	120	POLE	MH POLE FIXTURE ON 22FT SQUARE POLE – 1 HEAD
F2	LITHONIA KAD-250M-R4-120-SPD04-LPI	2	MH	250	120	POLE	MH POLE FIXTURE ON 22FT SQUARE POLE – 2 HEAD

All exterior lighting shall be full cut off per MLOD ORDINANCE

UDC Section 35-339.04.

PANELBOARD: EP — VOLTAGE: 120/208 — MOUNTING: Surface — A.I.C. RATING: 22KAIC Fully Rated — LOCATION: SEE PLAN — BUS AMPS 200 — MAIN: 200 — MAIN BREAKER

FEED FROM: MAIN SERVICE — LOAD BREAKDOWN

SERVING	CCT NO.	LOAD	LITE	RECPT	HEAT	HVAC	MISC	KITCH	WIRE SIZE	POLE	BKR AMP		BKR AMP	POLE	WIRE SIZE	LITE	RECPT	HEAT	HVAC	MISC	KITCH	LOAD	CCT NO.	SERVING
FREE LIGHTING	1	1000	1000						2#10, 1#10 G, 3/4"C.	1	20	A	20	1	3#10, 1#10 G, 3/4"C.	1500						1500	2	FREE LIGHTING
FREE LIGHTING	3	1000	1000						2#10, 1#10 G, 3/4"C.	1	20	B	20	1	3#10, 1#10 G, 3/4"C.	1260						1260	4	OS LIGHTING
OS LIGHTING	5	1000	1000						2#10, 1#10 G, 3/4"C.	1	20	C	20	1	3#10, 1#10 G, 3/4"C.	840						840	6	OS LIGHTING
RISER ROOM	7	1500					1500		2#10, 1#10 G, 3/4"C.	1	20	A	20	1	3#10, 1#10 G, 3/4"C.	1260						1260	8	OS LIGHTING
SPARE	9	0								1	20	B	20	1	3#10, 1#10 G, 3/4"C.	1000						1000	10	OS LIGHTING
"	11	0								1	20	C	20	1								0	12	SPARE
SPACE	13	0										A	20	1								0	14	"
"	15	0										B	20	1								0	16	"
"	17	0										C	20	1								0	18	"
ELEV 1 SUMP PUMP	19	1800					1800		2#10, 1#10 G, 3/4"C.	1	20	A	20	1	3#10, 1#10 G, 3/4"C.					1800		1800	20	ELEV 2 SUMP PUMP
ELEV 1 CAB PWR	21	1000					1000		2#10, 1#10 G, 3/4"C.	1	20	B	20	1	3#10, 1#10 G, 3/4"C.					1000		1000	22	ELEV 2 CAB PWR
ELEV SUMP LTG/RECEP	23	1500					1500		2#12, 1#12 G, 3/4"C.	1	20	C	20	1	3#10, 1#10 G, 3/4"C.					1500		1500	24	ELEV SUMP LTG/RECEP
ELEVATOR 1	25	7165					7165		4#1, 1#8 G, 1 1/4"C.	3	80	A	80	3	4#1, 1#8 G, 1 1/4"C.					7165		7165	26	ELEVATOR 2
"	27	7165					7165		"	"	"	B	"	"	"					7165		7165	28	"
"	29	7165					7165		"	"	"	C	"	"	"					7165		7165	30	"

	LITE	RECPT	HEAT	HVAC	MISC	KITCH		WATTS		AMPS
TOTAL CONNECTED VA	8860	0	0	0	59539	0		68399		190.0
TOTAL DEMAND VA	11075	0	0	0	59539	0		70614		196.0
NEC MINIMUM REQUIRED AMPACITY	196									

ELECTRICAL GENERAL NOTES

1. ALL WORK SHALL BE PERFORMED IN COMPLIANCE WITH THE LATEST EDITION OF ALL LOCAL AMENDMENTS AND REGULATIONS AS ADOPTED BY THE AUTHORITY HAVING JURISDICTION AND THE STATE OF TEXAS, AND THE PUBLICATIONS AND STANDARDS OF THE RELATED SUPPLEMANTARY CONDITIONS, WHICH ARE REFERENCED IN ELECTRICAL SPECIFICATIONS BY THE ABBREVIATIONS NOTED:

   UNITED STATES OF AMERICA STANDARDS INSTITUTE - USASI
   INSTITUTE OF ELECTRICAL AND ELCTRONIC ENGINEERS - IEEE
   NATIONAL ELECTRICAL CODE - NEC
   NATIONAL FIRE PROTECTION ASSOCIATION - NFPA
   UNDERWRITER'S LABORATORIES - UL
   NATIONAL ELECTRICAL MANUFACTURER'S ASSOCIATION - NEMA
   CERTIFIED BALLAST MANUFACTURERS - CBM
   AMERICAN SOCIETY OF TESTING MATERIALS - ASTM
   OCCUPATIONAL SAFETY AND HEALTH ACT - OSHA

2. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE CONTRACT DOCUMENTS, PLANS AND THE SPECIFICATIONS, AND SHALL BE PERFORMED WITH THE LATEST INDUSTRY ACCEPTED STANDARDS.

3. CONTRACTOR SHALL BE RESPONSIBLE FOR ADEQUATELY BRACING AND PROTECTING ALL WORK DURING CONSTRUCTION AGAINST DAMAGE, BREAKAGE, COLLAPSE, AND MISALIGNMENT ACCORDING TO APPLICABLE CODES, STANDARDS AND GOOD CONSTRUCTION PRACTICES. CONTRACTOR SHALL TAKE PROPER PRECAUTIONS TO PROTECT ALL EXISTING OPERATIONS AND PROPERTY ADJACENT WITH WHICH WORK COMES IN CONTACT, OR OVER OR UNDER EQUIPMENT, DEBRIS, ETC. CONTRACTOR SHALL BE RESPONSIBLE OR REPAIR AND/OR REPLACEMENT IN KIND OF ALL INADVERTENT DAMAGE TO EXISTING SYSTEMS.

4. ALL NECESSARY PERMITS, LICENSES, CERTIFICATES, TESTS, ETC., SHALL BE PROCURED AND PAID FOR BY THE CONRACTOR.

5. THE DRAWINGS SALL NOT BE SCALED FOR CONSTRUCTION INSTALLATION DIMENSIONS. ALL CONDUIT ROUTING IS SHOWN IN APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD VERIFICATION OF CONDITIONS, ND SHALL PERFORM FIELD MEASUREMENTS PRIOR TO FABRICATION AND/OR PURCHASE OF ANY EQUIPMETN AND MATERIAL. REFERENCE ALL DETAILS FOR ADDITIONAL CONSTRUCTION REQUIREMENTS. DETAILS MAY NOT BE REFERENCED ON THE DRAWING(S), BUT ARE INTENDED TO BE TYPICAL THROUGHOUT UNLESS OTHERWISE NOTED.

   DO NOT BEGIN WORK IF ANY DISCREPANCIES OR CONFLICTS ARE DISCOVERED BETWEEN SYSTEMS, UTILITIES, OT BETWEEN EXISTING ELEMENTS SCHEDULED TO REMAIN AND NEW RENOVATIONS , UNTIL THE DISCREPANCIES OR CONFLICTS ARE BROUGHT TO THE ATTENTION OF THE OWNER'S CONSTRUCTION REPRESENTATIVE AND/OR ENGINEER.SHOULD ANY CONFLICTS OR AMBIGUITIES EXIST IN THE DRAWINGS, NOTES OR SPECIFICATIONS, BRING THOSE TO THE ATTENTION OF THE ENGINEER IMMEDIATELY BEFORE PROCEEDING WITH WORK.

6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ENSURING FULL COORDINATION WITH ALL TRADES TO ACCOMPLISH THE WORK AS INDICATED AND NOTED IN CONTRACT DOCUMENTS, COORDINATE WITH OWNER'S REPRESENTATIVE, AND MAINTAIN A SET OF CONSTRUCTION DRAWINGS ON SITE AT ALL TIMES SO ANY AND ALL CHANGES BETWEEN THE DRAWINGS AND THE ACTUAL CONSTRUCTION CAN BE NOTED. CONFLICTS ARISING DUE TO LACK OF COORDINATION SHALL BE THE RESPONSIBILITY, AND AT HE EXPENSE, OF THE CONTRACTOR. FINAL AS-BUILT DRAWINGS ARE TO BE DELIVERED TO THE OWNER/ENGINEER AND THE FINAL INVOICE FOR THE CONTRACT WILL NOT BE PAID UNTIL THESE AS-BUILT DRAWINGS ARE RECEIVED.

7. WORK AREAS ARE TO BE KEPT FREE OF DEBRIS AT ALL TIMES AND ARE TO BE LEDT BROOM CLEAN AT THE END OF EACH WORKING DAY. THE CONTRACTOR SHALL DISPOSE OF OFF-SITE, ALL MATERIALS REMOVED WHICH ARE NOT TO BE REINSTALLED OR SLAVAGED ON THE PROJECT, UNLESS DIRECTED OTHERWISE BY OWNER. DISPOSAL OF MATERIALS SHALL BE IN ACCORDANCE WITH ACCEPTABLE METHODS APPROVED BY OWNER AND COORINATED THROUGH OWNER'S COORDINATOR.

8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL NECESSARY EQUIPMENT AND MANPOWER FOR HOISTING AND RIGGING ALL MATERIALS FURNISHED UNDER THE SCOPE OF WORK.

9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE RATING OF ALL PENETRATIONS THROUGH FIRE AND SMOKE RATED SURFACES. THE CONTRACTOR SHALL COMPLY WITH THE UL LISTING INSTRUCTIONS FOR PENETRATIONS THROUGH RATED SURFACES.

10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TRAINING OF HIS EMPLOYEES AND SUBCONTRACTORS IN THE RECOGNITION AND AVOIDANCE OF UNSAFE CONDITIONS, AND IN THE REGULATIONS AND HAZARDS WHICH APPLY TO THE AREA IN WHICH THE WORK WILL TAKE PLACE. ALL SAFETY EXPOSURES OT VOILATIONS BROUGHT TO THE ATTENTION OF THE CONTRACTOR SHALL BE RECTIFIED IMMEDIATELY.

11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING PROTECTION OF PERSONS AND PROPERTY, AND FOR PROVIDING SAFE WORKING CONDITIONS THROUGH OUT THE WORK PROCESS. CONTRACTOR SHALL PROVIDE TEMPORARY COVERINGS FOR OPENING THROUGH WALLS OR FLOORS, AND PROVIDE TEMPORARY BARRIERS, PARTITIONS AND/OR DUST BARRIERS WHERE REQUIRED TO MAINTAIN OSHA AND THE OWNER'S SAFETY STANDARDS AND TO PREVENT DAMAGE TO PROPERTY. ALL AREAS ADJACENT TO THE CONSTRICATION AREA OR AFFECTED BY THE CONSTRUCTION MUST BE PROTECTED FROM DAMAGE. CLEANED AND RESTORED TO THEIR ORIGINAL DAMAGE, CLEANED AND RESTORED TO THEEIR ORIGINAL CONDITION AT THE END OF THE PROJECT. WELDING BLANKETS SHALL BE UTILIZED FOR PROTECTION OF COMBUSTIBLE MATERIALS IN AREAS WHERE WELDING OR CUTTING WITH A TORCH IS CONDUCTED.

12. ALL WORK SHALL BE GUARANTEED AGAINST DEFECTIVE MATERIALS AND WORKMANSHIP FOR A PERIOD OF NO LESS THAN ONE (1) YEAR AFTER THE DATE OF SUBSTANTIAL COMPLETION OR ACCEPTANCE OF THE WORK. THE CONTRACTOR SHALL REPAIR OR REPLACE, AT HIS OWN EXPENSE WHEN ORDERED TO DO SO, ALL WORK THAT MAY DEVELOP DEFECTS IN MATERIAL OR WORKMANSHIP WITHIN SAID PERIOD OF TIME. ALL EQUIPMENT, SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS FOR SERVICE INTENDED. ALL MATERIALS, TOOLS, COSTS, AND SERVICES NESSARY TO COMPLETELY INSTALL ALL ELECTRICAL WORK SHALL BE PROVIDED BY THE CONTRACTOR.

13. ALL PROPOSED EQUIPMENT INSTALLED ON THE PROJECT SHALL BE NEW AND UNUSED UNLESS NOTED OTHERWISE. ALL EQUIPMENT SHALL BE LABELED AND LISTED FOR THE INTENDED USE. THE EQUIPMENT SHALL BE LABELED AND LISTED FOR THE INTENDED USE. THE ELECTRICAL CONTRACTOR SHALL REMOVE ALL LABELS, DIRT, PAINT SPOTS, GREASE AND STAINS FROM ALL ELECTRICAL EQUIPMENT AND SHALL CLEAN ALL EQUIPMENT AS NECESSARY. NO LOOSE PARTS OR SCRAPS OF EQUIPMENT SHALL BE LEFT ON THE PREMISES. EQUIPMENT LOCATION AND ROUTING IS APPROXIMATE AND SHALL BE REPLACE TO PROVIDE PROPER ACCESS AND CLEARANCE FROM OTHER TRADES AND EQUIPMENT.

14. ALL WIRING SHALL BE THWN/THHN, 98% CONDUCTIVITY, STRANDED COPPER, CONDUCTORS, 600V INSULATION. ALL WIRING SHALL BE INSTALLED ON CONDUIT AND CONDITIONED (WITHOUT SPLICES).

15. A GREEN GROUND CONDUCTOR SHALL BE PROVIDED WITH ALL BRANCH AND FEEDER CIRCUITS. SIZE PER N.E.C. 250 UNLESS NOTED OTHERWISE. ALSO PROVIDE A SEPARATE DEDICATED NEUTRAL WIRE FOR ALL CIRCUITS. UPON COMPLETION OF THE WORK, ALL PARTS OF THE ELECTRICAL INSTALLATION SHALL BE TESTED AND PROVED TO BE FREE OF UNWANTED GROUNDS AND OTHER DEFECTS. FINAL TESTS SHALL BE ACCOMPLISHED BY USE OF MEGGAR.

16. ALL CONDUIT SHALL BE EMT WITH STEEL COMPRESSION TYPE FITTINGS UNLESS NOTED OTHERWISE. MOUNT THE CONDUIT AS HIGH AS POSSIBLE AND RUN PARALLEL AND PERPENDICULAR TO STRUCTURES.

17. ELECTRICAL CONTRACTOR SHALL PROVIDE AND INSTALL TAGGED LABELED PULL WIRES IN ALL EMPTY RACEWAYS. USE NO. 14 AWG ZINC COATED STEEL OR BRAIDED LINE HAVING NOT LESS THAN 200-LB TENSILE STRENGTH.

18. DUCT BANK CONDUIT SHALL BE RIGID SCHEDULE 40 OR 80 GRAY PVC.

19. CHANNEL AND ANGLE SUPPORT SYSTEMS, HANGERS, ANCHORS, SLEEVES, AND FASTENERS SHALL BE DESIGNED TO PROVIDE SECURE SUPPORTS FROM THE BUILDING STRUCTURE FOR ELECTRICAL COMPONENTS. SUPPORTING DEVICES SHALL BE HOT DIPPED GALVANIZED STEEL. CONFORM TO MANUFACTURER'S RECOMMENDATIONS FOR SELECTING SUPPORTS THE STRENGTH OF SUPPORTS SHALL BE ADEQUATE TO CARRY ALL PRESENT AND FUTURE LOADS TIMES A SAFETY FACTOR OF AT LEAST FOUR; 200-LB MINIMUM DESIGN LOAD. SUPPORT PARALLEL RUNS OF HORIZONTAL RACEWAYS TOGETHER ON TRAPEZE OR BRACKET TYPE HANGERS.

20. PULL BOXES SHALL BE GALVANIZED SHEET METAL WITH SCREW ON COVER AND WELDED SEAMS, FULLY HINGED ON ONE SIDE, WITH ALL STAINLESS STEEL NUTS, BOLTS, WASHERS, HARDWARE, ETC. BOXES SHALL BE SIZED IN ACCORDANCE WITH THE NEC.

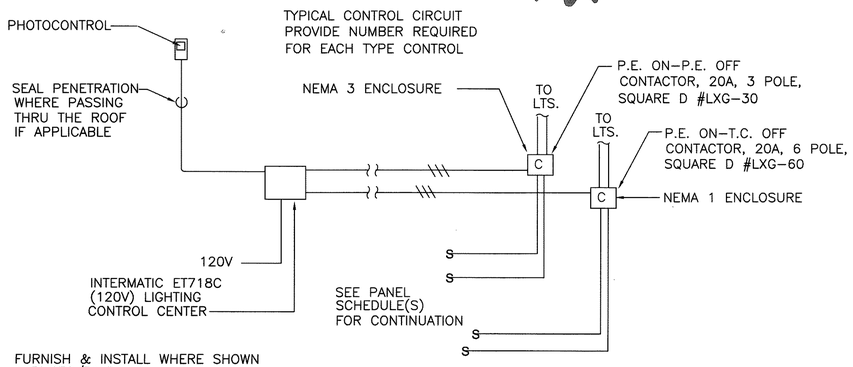
21. ALL PANEL BOARDS SHALL BE MOUNTED TO KINDORF CHANNEL FRAMING INDEPENDENT OF BUILDING STRUCTURE.

LOAD ANALYSIS

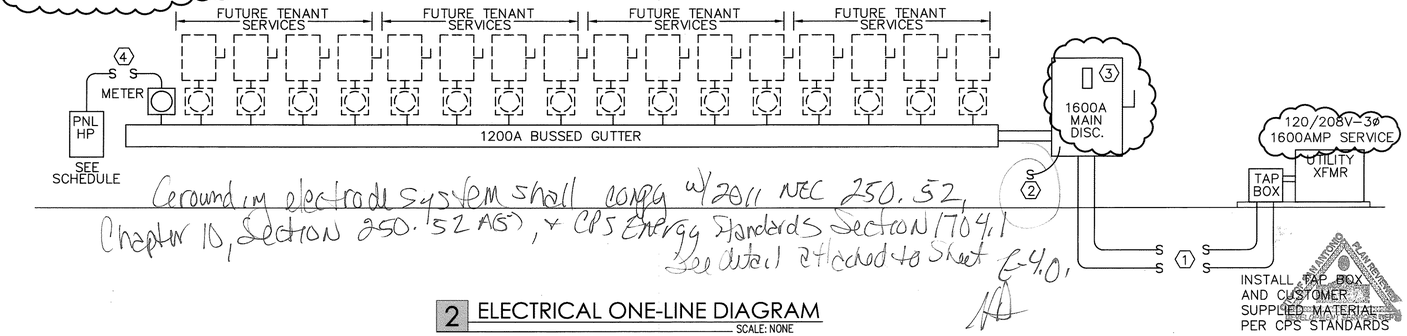
TENANT LIGHTING	28,567 SF x 3 x 1.25	=107.2kw
TENANT CONV. POWER	35kw – 10kw = 25kw x .5 = 12.5kw	= 22.5kw
AC		= 100kw
ELEC. HEAT	300KW x .65	= 195kw
ELEVATORS		= 43.8kw
MISC. LOADS		= 10kw
	TOTAL	479kw
	TOTAL LOAD @ 208V/3ø	= 1329 AMPS
	SERVICE SIZE	= 1600 AMPS

NOTE:
1. LIGHTING IS AT MAX ALLOWED BY COMCHECK FOR RETAIL.
2. HEAT IS AT 65% OF TOTAL FOR HEAT PUMP APPLICATION.

ONE-LINE KEYED NOTES:
1. 6 SETS OF 4-400KCMIL(AL) EACH IN 4"C.
2. 3/0 CU GROUND TO BUILDING STRUCTURE, PAD REINF. OR GROUND ROD PER NEC 250.
3. 1600AMP ENCLOSED CIRCUIT BREAKER IN 1600 AMP NEMA 3R ENCLOSURE.
4. 4-4/0, 1#5G, 2 1/2"C.



1 EXTERIOR LIGHTING CONTROL DETAIL
SCALE: NONE



2 ELECTRICAL ONE-LINE DIAGRAM
SCALE: NONE

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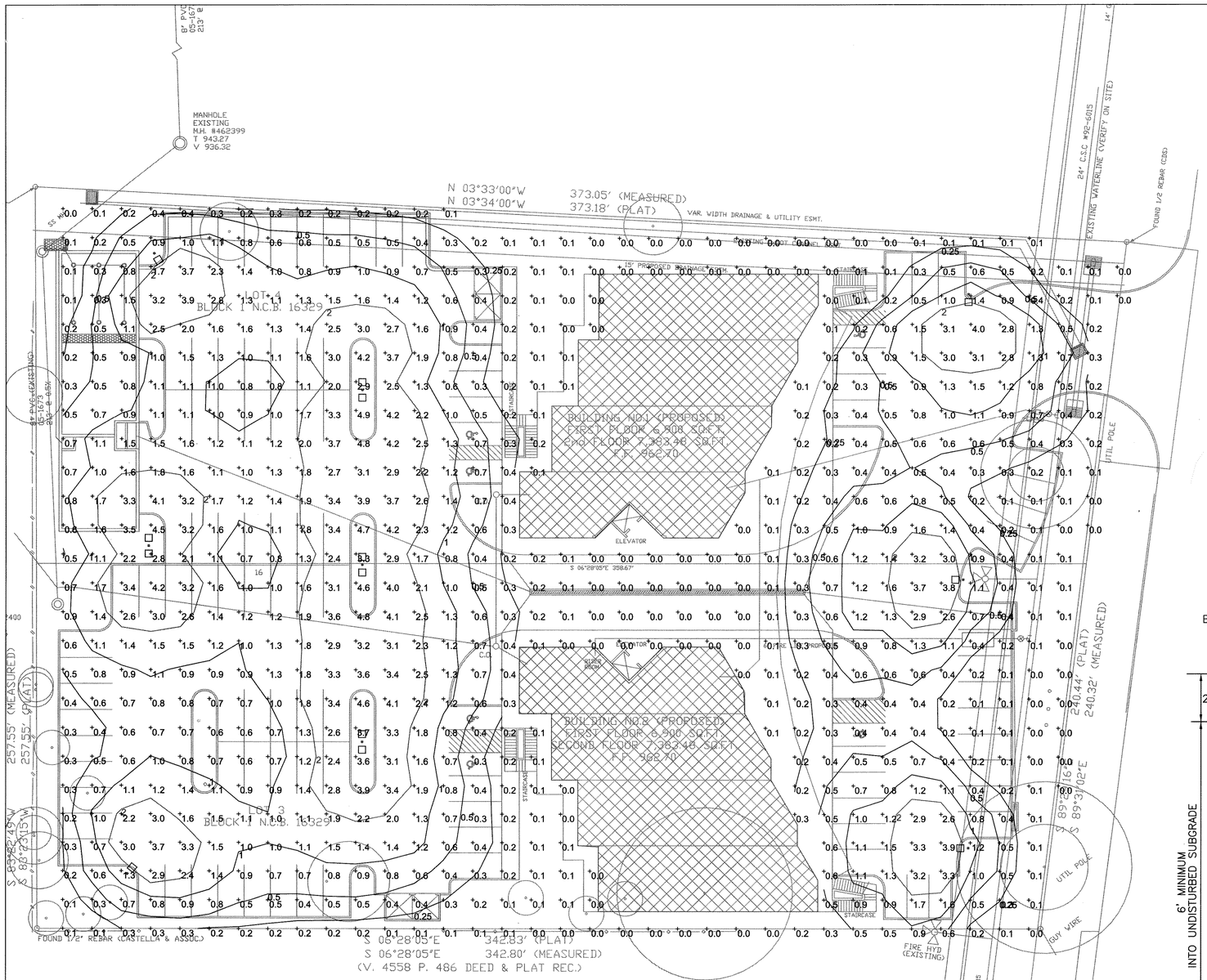
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REVISION #6 - 05/20/13	

STATE OF TEXAS
F. ALLEN PERRY
80130
REGISTERED PROFESSIONAL ENGINEER
20

PROJECT NAME: NORTH LOOP RETAIL CENTER
PROJECT ADDRESS: 1604 & STONE OAK SAN ANTONIO, TX
SHEET TITLE: ELECTRICAL

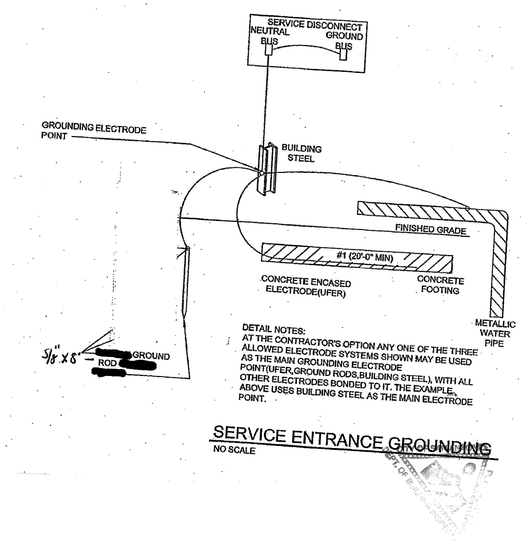
SHEET NUMBER
E-3.0



1 SITE PHOTOMETRICS

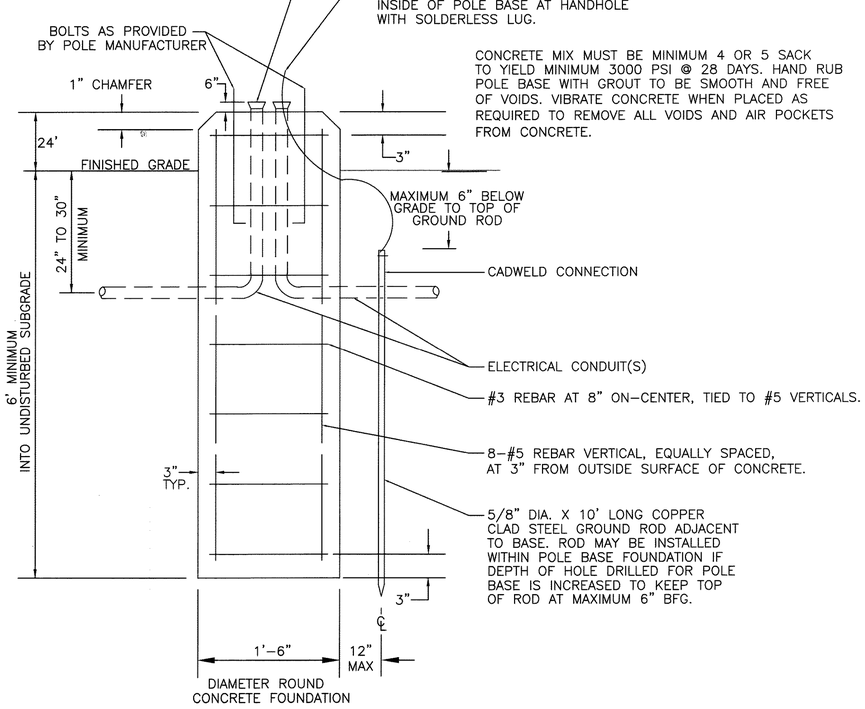
SCALE: 1" = 20'-0"

All exterior lighting shall be full cut-off per MCOD Ordinance- UDC Section 35-339.04.



SERVICE ENTRANCE GROUNDING

NO SCALE



CONCRETE MIX MUST BE MINIMUM 4 OR 5 SACK TO YIELD MINIMUM 3000 PSI @ 28 DAYS. HAND RUB POLE BASE WITH GROUT TO BE SMOOTH AND FREE OF VOIDS. VIBRATE CONCRETE WHEN PLACED AS REQUIRED TO REMOVE ALL VOIDS AND AIR POCKETS FROM CONCRETE.

2 POLE BASE MOUNTING DETAIL

SCALE: NONE

CITY OF SAN ANTONIO PLAN REVIEWER DEVELOPMENT SERVICES DEPT

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Austin, Texas 78746
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ISSUE DATE	1.10.2013
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CHECKED BY	FAP
SCALE	AS SHOWN
REVISIONS	
REVISION #1 - 04/01/13	

STATE OF TEXAS
F. ALLEN PERRY
80130
REGISTERED
PROFESSIONAL ENGINEER
4/1/2013

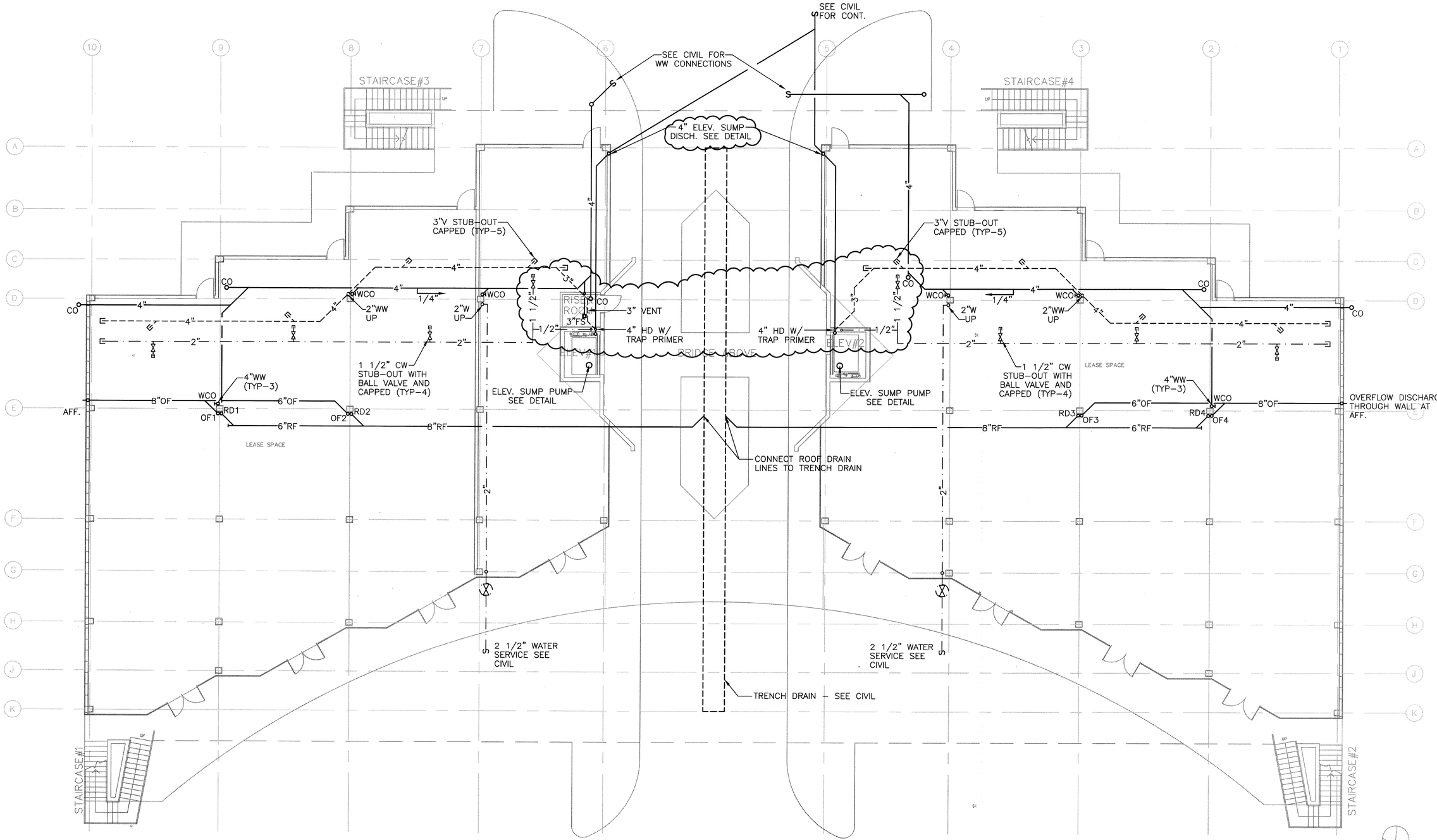
PROJECT NAME: NORTH LOOP RETAIL CENTER

PROJECT ADDRESS: 1604 & STONE OAK SAN ANTONIO, TX

SHEET TITLE: PHOTOMETRIC

SHEET NUMBER

E-4.0



1 PLUMBING 1ST FLOOR PLAN

SCALE: 1/8" = 1'-0"

Tchen Architects
13009 ON THE LAKE
AUSTIN, TX 78732
312.381.4017
512.441.4477 (FAX)
tchen@tchenarch.com
website: www.tchenarch.com

M.E.P. ENGINEERING CONSULTANT
3533 Bee Caves Road Suite 111
Ph. (512) 329-8899
Austin, Texas 78746
F-3916

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ENERGY SOLUTIONS, INC.

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REVISION #1 - 04/01/13	
REVISION #2 - 04/25/13	
REVISION #3 - 05/06/13	

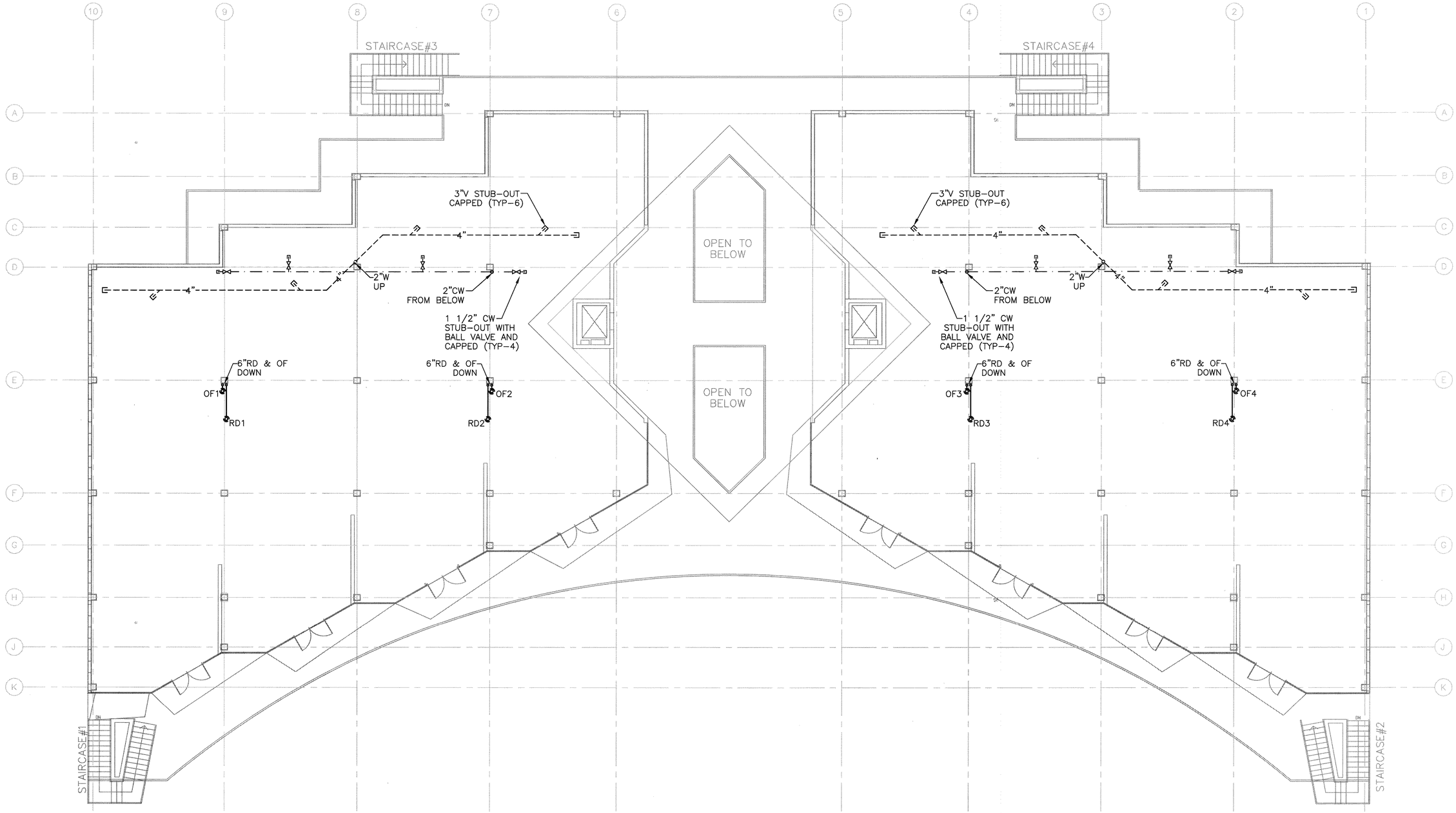
STATE OF TEXAS
F. ALLEN PERRY
80130
REGISTERED PROFESSIONAL ENGINEER

PROJECT NAME: NORTH LOOP RETAIL CENTER
PROJECT ADDRESS: 1604 & STONE OAK SAN ANTONIO, TX
SHEET TITLE: PLUMBING FLOOR PLAN

SHEET NUMBER

P-2.0

CITY OF SAN ANTONIO PLAN REVIEWED DEVELOPMENT SERVICES DEPT



1 PLUMBING 2ND FLOOR PLAN

SCALE: 1/8" = 1'-0"

CITY OF SAN ANTONIO PLAN REVIEWED DEVELOPMENT SERVICES DEPT

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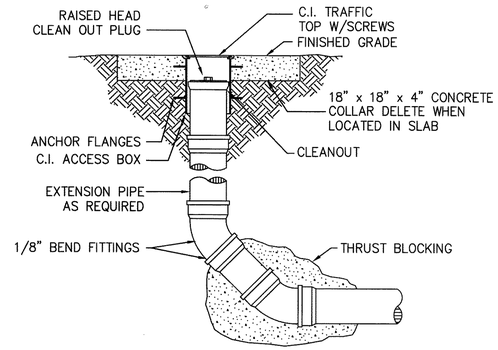
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REVISIONS	

F. Allen Perry
10 JAN 2013

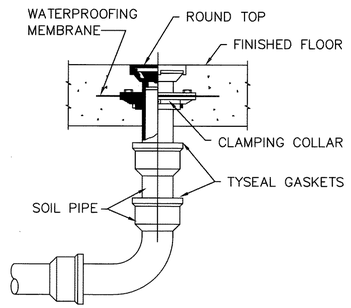
PROJECT NAME: NORTH LOOP RETAIL CENTER
PROJECT ADDRESS: 1604 & STONE OAK SAN ANTONIO, TX
SHEET TITLE: PLUMBING FLOOR PLAN

SHEET NUMBER

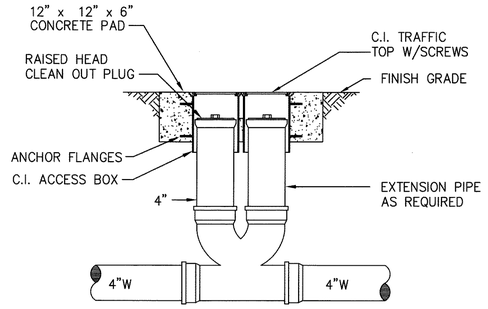
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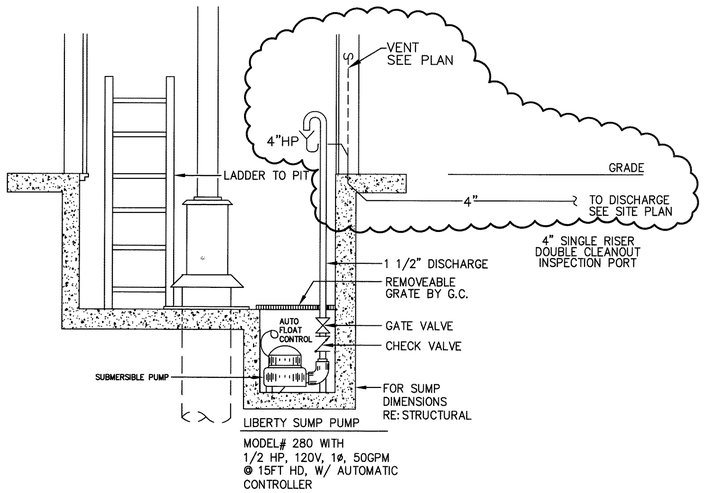
1 EXTERIOR CLEANOUT DETAIL
SCALE: NONE



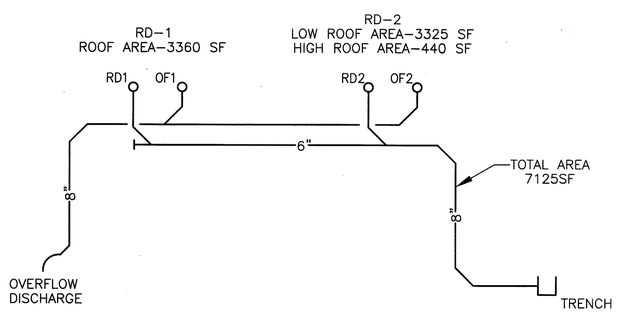
2 FLOOR CLEAN OUT DETAIL
SCALE: NONE



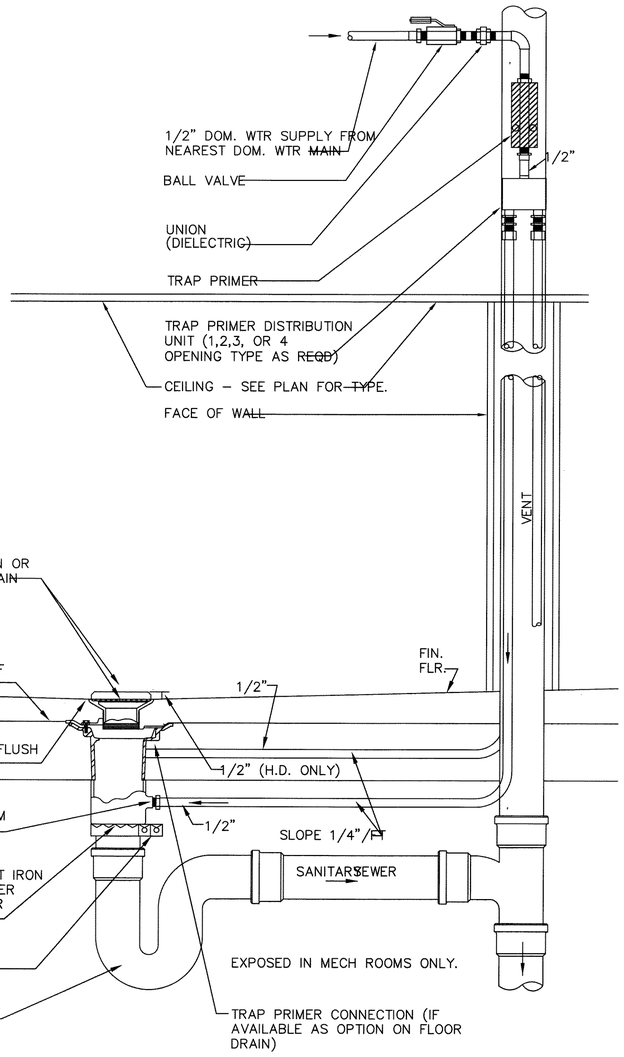
3 DOUBLE CLEAN OUT DETAIL
SCALE: NONE



4 ELEVATOR SUMP DETAIL
SCALE: NONE



5 ROOF DRAIN RISER
SCALE: NONE
(RD3/RD4 RISER OPPOSITE HAND)



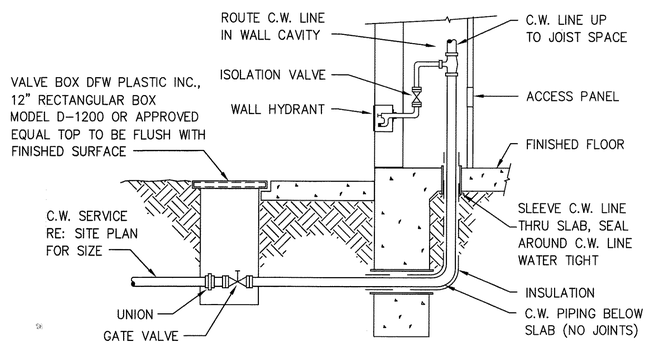
6 TYPICAL TRAP PRIMER DETAIL
SCALE: NONE

PLUMBING GENERAL NOTES

1. THE CONTRACTOR IS TO VISIT THE SITE PRIOR TO BID TO FAMILIARIZE HIMSELF WITH ALL CONDITIONS AS THEY EXIST. SUBMISSION OF BID INDICATES THE CONTRACTOR'S UNDERSTANDING OF EXISTING CONDITIONS AND HIS WILLINGNESS TO WORK WITH THESE CONDITIONS. NO ADDITIONAL TIME OR MONEY WILL BE ALLOTTED DUE TO LACK OF COORDINATION WITH EXISTING CONDITIONS OR OTHER TRADES.
2. ALL WORK SHALL COMPLY WITH THE APPLICABLE LOCAL, STATE, AND FEDERAL CODES AND ORDINANCES. FOLLOW RECOMMENDED PRACTICES AS SET DOWN BY ASME, SMACNA, ASHRAE, NFPA, INTERNATIONAL BUILDING CODE, INTERNATIONAL MECHANICAL CODE, 2000 UNIFORM PLUMBING CODE, NATIONAL ELECTRICAL CODE, AGA AND OSHA, AS THEY APPLY TO THIS PROJECT, EXCEPT IN CASES WHERE STATUTES GOVERN.
3. ALL CONTRACTORS SHALL COORDINATE THROUGH THE PROJECT CONSTRUCTION SUPERVISOR.
4. SEE ARCHITECTURAL DRAWINGS FOR EXACT PLACEMENT AND QUANTITY OF ALL FIXTURES.
5. BEFORE STARTING WORK, VERIFY LOCATIONS, ELEVATIONS AND SIZES OF ALL PIPING AND EQUIPMENT REQUIRING PLUMBING CONNECTIONS.
6. COORDINATE ALL PLUMBING WORK WITH ALL OTHER WORK TO AVOID CONFLICT. RUN ALL PIPING TO AVOID ARCHITECTURAL OPENINGS, STRUCTURAL MEMBERS, DUCTS OR OTHER OBSTRUCTIONS. OFFSET PLUMBING PIPING WHERE REQUIRED.
7. COMBINE ALL VERTICAL VENTS WHERE PRACTICAL.
8. INSTALL CLEANOUTS IN ACCORDANCE WITH THE INTERNATIONAL PLUMBING CODE AND LOCAL CODE REQUIREMENTS.
9. RUN ALL CW AND HW LINES ABOVE CEILING UNLESS NOTED OTHERWISE.
10. PLUMBING CONTRACTOR SHALL MOUNT ALL FIXTURE HEIGHTS ACCORDING TO THE STATE OF TEXAS ADA REQUIREMENTS, ARCHITECTURAL DRAWINGS FOR MOUNTING HEIGHTS.
11. ALL SANITARY SEWER AND VENTS SHALL BE SCHEDULE 40 PVC.
12. ALL DOMESTIC HW AND CW SHALL BE RIGID COPPER.
13. INSULATE ALL PIPING WITH MIN. 1" FIBERGLASS PRE-FROMER PIPE INSULATION WITH ALL SERVICE JACKET. INSULATE ELBOWS WITH FORMED FITTING COVERS. CW PIPING SHALL HAVE VAPOR BARRIER TROUGH-OUT. INCREASE SIZE OF HW INSULATION TO COVER "WARM TRACE" CABLE AS REQUIRED.
    INSTALLATION SHALL MEET IEEC 2005 REQUIREMENTS.
14. HOSE BIBBS SHALL BE WOODFORD MODEL B67 OR APPROVED EQUAL.

PLUMBING ABBREVIATION SCHEDULE

AFF	ABOVE FINISHED FLOOR	MECH	MECHANICAL
CLD	CLOTHES DRYER	NTS	NOT TO SCALE
CLW	CLOTHES WASHER	NO.	NUMBER
CO	CLEANOUT	PH	PHASE
CW	COLD WATER	PLBG	PLUMBING
DIA	DIAMETER	SK	SINK
DCO	DOUBLE CLEAN OUT	TYP	TYPICAL
DN	DOWN	UR	URINAL
DWG	DRAWING	V	VENT (PLUMBING)
EWC	ELECTRIC WATER COOLER	VTR	VENT THROUGH ROOF
FCO	FLOOR CLEAN OUT	W/	WITH
FD	FLOOR DRAIN	WC	WATER CLOSET
HD	HUB DRAIN	WCO	WALL CLEANOUT
HP	HORSEPOWER	WH	WATER HEATER
HT	HEIGHT	YCO	YARD CLEANOUT
HW	HOT WATER		
LAV	LAVATORY		



7 DOMESTIC WATER ENTRY DETAIL
SCALE: NONE

CITY OF SAN ANTONIO PLAN REVIEWED DEVELOPMENT SERVICES DEPT

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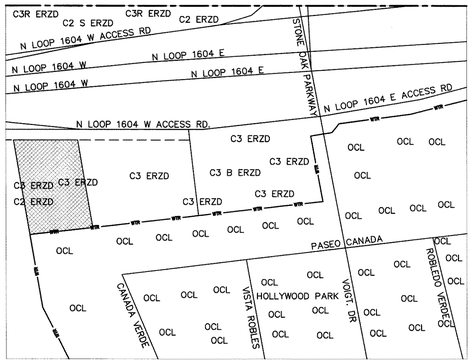
STATE OF TEXAS
F. ALLEN PERRY
80130
LICENSED PROFESSIONAL ENGINEER

PROJECT NAME: NORTH LOOP RETAIL CENTER
PROJECT ADDRESS: 1604 & STONE OAK SAN ANTONIO, TX
SHEET TITLE: PLUMBING FLOOR PLAN

SHEET NUMBER
P-3.0

NORTH LOOP RETAIL CENTER

226 & 238 TEXAS 1604 LOOP, SAN ANTONIO, TEXAS 78221



ZONING / SUBDIVISION MAP

IMPERVIOUS TABLE

TOTAL AREA OF LOTS 88,905.96 SQ.FT. 2.041 ACRES

EXISTING IMPERVIOUS COVER 0.0 ACRES

PROPOSED IMPERVIOUS COVER

BUILDING	13,312.76 SQFT.	0.3056 ACRES
SIDEWALK (CONCRETE)	4,757.36 SQFT.	0.1092 ACRES
PARKING (CONCRETE)	39,444.42 SQFT.	0.9055 ACRES
TOTAL PROPOSED IMPERVIOUS	57,514.54 SQ.FT.	1.320 ACRES (64.69%)
LIMIT OF CONSTRUCTION		2.0890 ACRES

MAXIMUM ALLOWABLE IMPERVIOUS COVER = 65%

BUILDING & SITE INFORMATION

BUILDING NO.	STORIES	TOTAL FLOOR AREA	HEIGHT FT.	FINISH FLOOR	REMARKS
1	2	14,283.48 SQ.FT.	49'-10"	962.60	PROPOSED
2	2	14,283.48 SQ.FT.	49'-10"	962.60	PROPOSED

TOTAL BUILDING FLOOR AREA = 28,566.96 SQ. FT. (32.14%)
MAXIMUM ALLOWABLE BUILDING COVERAGE = N/A
FLOOR AREA RATIO = 0.3214:1
ALLOWABLE FLOOR AREA RATIO = N/A
PROPOSED USE: GENERAL RETAIL/OFFICE SPACE
ZONING USE : COMMERICAL

PARKING DATA

BUILDING NO.	FUNCTION (ROOM TYPE)	AREA SQ.FT.	PARKING REQUIREMENT SPACES / S.F. FUNCTION	SUBTOTAL SPACES
1	GENERAL RETAIL	14,283.48	1/200 MAXIMUM	71
1	GENERAL RETAIL	14,283.48	1/300 MINIMUM	48
2	GENERAL RETAIL	14,283.48	1/200 MAXIMUM	71
2	GENERAL RETAIL	14,283.48	1/300 MINIMUM	48

TOTAL REQUIRED	96 MIN - 142 MAX
TOTAL PROVIDED ON SITE	96
SUMMARY : COMPACT PARKING	0
STANDARD PARKING	90
HANDICAP PARKING	6

NOTE FOR CONSTRUCTION

THESE DOCUMENTS ARE NOT APPROVED FOR CONSTRUCTION, AND SHALL NOT BE USED FOR CONSTRUCTION UNTIL APPROVED BY THE CITY OF SAN ANTONIO, AND UNTIL ALL REQUIRED OTHER CITY, COUNTY, AND STATE PERMITS ARE OBTAINED.

CLIENT

JAVAD BONAKCHI

12300 W IH-10, SAN ANTONIO, TEXAS 78230
210-641-7665 FAX (210) 641-7707

CONSULTING ENGINEERS

PROFESSIONAL StruCIVIL ENGINEERS

CONSULTING CIVIL AND STRUCTURAL ENGINEERS

12710 RESEARCH BLVD., SUITE 390, AUSTIN, TEXAS 78759
(512) 238-6422 FAX (512) 258-8095

LANDSCAPE ARCHITECT

BLAIR-HILL LANDSCAPE ARCHITECTS

P.O. BOX 1568, CEDAR PARK, TEXAS 78630
(512) 259-9710

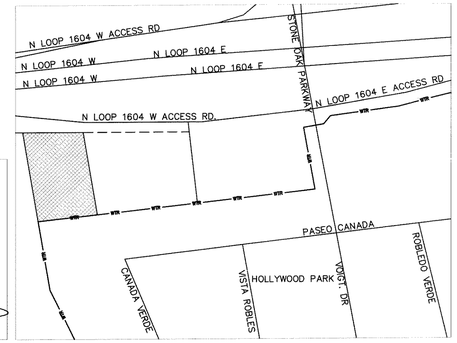
THIS SET OF PLANS AND SPECIFICATIONS MUST BE KEPT ON THE JOB AT ALL TIMES. OTHERWISE THE JOB IS SUBJECT TO REJECTION. IT IS UNLAWFUL TO MAKE ANY CHANGES OR ALTERATIONS ON SAME WITHOUT WRITTEN PERMISSION FROM THE BUILDING INSPECTOR'S OFFICE. CITY OF SAN ANTONIO THE STAMPING OF THIS PLAN AND SPECIFICATIONS SHALL NOT BE HELD TO PERMIT OR TO BE APPROVAL OF THE VIOLATION OF ANY PROVISIONS OF ANY CITY ORDINANCE OR STATE LAW.

LIST OF DRAWINGS

1	COVER SHEET
2	GENERAL NOTES
3	WATER POLLUTION PREVENTION PLAN
4	EXISTING SURVEY
5	DIMENSIONAL SITE PLAN
6	GRADING PLAN & DRAINAGE PLAN
7	FIRE PROTECTION SITE PLAN
8	EROSION/ SEDIMENTATION/ T.P. PLAN
9	UTILITY PLAN
10	GENERAL DETAILS
11	GENERAL DETAILS
12	GENERAL DETAILS
13	GENERAL DETAILS
14	WATER QUALITY POND
15	WATER QUALITY POND DETAILS
16	TREE PRESERVATION / CANOPY PLAN
17	LANDSCAPE PLAN
18	LANDSCAPE DETAIL
19	IRRIGATION PLAN
20	IRRIGATION DETAIL
21	TxDOT DRIVEWAY CULVERT
22	TEMPORARY TRAFFIC CONTROL TxDOT
23	TEMPORARY TRAFFIC CONTROL TxDOT
24	DRAINAGE AREA MAP
25	FINAL PLAT
26	OFF SITE DRAINAGE AREA MAP (TXDOT)

CITY OF SAN ANTONIO
DEVELOPMENT SERVICES DEPARTMENT
PLAN REVIEW DIVISION
REVIEWED FOR CODE COMPLIANCE
DATE: 8-9-13
BY: M. Molaney





SITE LOCATION MAP

DATE OF SUBMITTAL :
PROJECT TITLE : NORTH LOOP RETAIL CENTER
STREET ADDRESS : 226 & 238 TEXAS 1604 LOOP, SAN ANTONIO, TEXAS 78221
PROPERTY OWNER : JAVAD BONAKCHI
12300 W IH-10, SAN ANTONIO, TEXAS 78255
(210) 641-7665
CONTACT: JAVAD BONAKCHI
DESIGNER COMPANY : PROFESSIONAL StruCIVIL ENGINEERS, INC.
12710 RESEARCH BLVD., SUITE#390, AUSTIN, TEXAS 78759
(512) 238-6422
CONTACT: MIRZA TAHIR BAIG
NAME OF WATERSHED : PANTHER SRPINGS CREEK

AND CLASSIFICATION :
100-YEAR FLOOD PLAIN : PORTION OF THE PROPERTY DESCRIBED HEREON IS LOCATED IN ZONE "X" AS SHOWN ON THE FEDERAL INSURANCE ADMINISTRATION FLOOD HAZARD BOUNDARY MAP, PANEL NO. 48029C0255 G, DATED: SEPTEMBER 29, 2010.

LEGAL DESCRIPTION: LOTS 3 AND 4, BLOCK 1, N.C.B. 16329, ALLEN - 1604 SUBDIVISION AS RECORDED IN VOL 9546 PG. 33, DEED & PLAT RECORDS OF BEXAR CO., TEXAS LOCATED ON LOOP 1604, CITY OF SAN ANTONIO, BEXAR COUNTY, TEXAS

APPROVED BY: _____ DATE: _____
SAN ANTONIO WATER UTILITY

REVIEWED BY: _____ DATE: _____
CITY OF SAN ANTONIO

APPROVED BY: _____ DATE: _____
FIRE DEPARTMENT

REVISIONS 7/9/15

CITY OF SAN ANTONIO PLAN REVIEWED DEVELOPMENT SERVICES DEPT.

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
WATER POLLUTION ABATEMENT PLAN
GENERAL CONSTRUCTION NOTES

1. WRITTEN CONSTRUCTION NOTIFICATION MUST BE GIVEN TO THE APPROPRIATE TCEQ REGIONAL OFFICE NO LATER THAN 48 HOURS PRIOR TO COMMENCEMENT OF THE REGULATED ACTIVITY. INFORMATION MUST INCLUDE THE DATE ON WHICH THE REGULATED ACTIVITY WILL COMMENCE, THE NAME OF THE APPROVED PLAN FOR THE REGULATED ACTIVITY, AND THE NAME OF THE PRIME CONTRACTOR AND THE NAME AND TELEPHONE NUMBER OF THE CONTACT PERSON.

2. ALL CONTRACTORS CONDUCTING REGULATED ACTIVITIES ASSOCIATED WITH THIS PROJECT MUST BE PROVIDED WITH COMPLETE COPIES OF THE APPROVED WATER POLLUTION ABATEMENT PLAN AND THE TCEQ LETTER INDICATING THE SPECIFIC CONDITIONS OF ITS APPROVAL. DURING THE COURSE OF THESE REGULATED ACTIVITIES, THE CONTRACTORS ARE REQUIRED TO KEEP ON-SITE COPIES OF THE APPROVED PLAN AND APPROVAL LETTER.

3. IF ANY SENSITIVE FEATURE IS DISCOVERED DURING CONSTRUCTION, ALL REGULATED ACTIVITIES NEAR THE SENSITIVE FEATURE MUST BE SUSPENDED IMMEDIATELY. THE APPROPRIATE TCEQ REGIONAL OFFICE MUST BE IMMEDIATELY NOTIFIED OF ANY SENSITIVE FEATURES ENCOUNTERED DURING CONSTRUCTION. THE REGULATED ACTIVITIES NEAR THE SENSITIVE FEATURE MAY NOT PROCEED UNTIL THE TCEQ HAS REVIEWED AND APPROVED THE METHODS PROPOSED TO PROTECT THE SENSITIVE FEATURE AND THE EDWARDS AQUIFER FROM ANY POTENTIALLY ADVERSE IMPACTS TO WATER QUALITY.

4. NO TEMPORARY ABOVEGROUND HYDROCARBON AND HAZARDOUS SUBSTANCE STORAGE TANK SYSTEM IS INSTALLED WITHIN 150 FEET OF A DOMESTIC, INDUSTRIAL, IRRIGATION, OR PUBLIC WATER SUPPLY WELL, OR OTHER SENSITIVE FEATURE.

5. PRIOR TO COMMENCEMENT OF CONSTRUCTION, ALL TEMPORARY EROSION AND SEDIMENTATION (E&S) CONTROL MEASURES MUST BE PROPERLY SELECTED, INSTALLED, AND MAINTAINED IN ACCORDANCE WITH THE MANUFACTURERS SPECIFICATIONS AND GOOD ENGINEERING PRACTICES. CONTROLS SPECIFIED IN THE TEMPORARY STORM WATER SECTION OF THE APPROVED EDWARDS AQUIFER PROTECTION PLAN ARE REQUIRED DURING CONSTRUCTION. IF INSPECTIONS INDICATE A CONTROL HAS BEEN USED INAPPROPRIATELY, OR INCORRECTLY, THE APPLICANT MUST REPLACE OR MODIFY THE CONTROL FOR SITE SITUATIONS. THE CONTROLS MUST REMAIN IN PLACE UNTIL DISTURBED AREAS ARE REVEGETATED AND THE AREAS HAVE BECOME PERMANENTLY STABILIZED.

6. IF SEDIMENT ESCAPES THE CONSTRUCTION SITE, OFF-SITE ACCUMULATIONS OF SEDIMENT MUST BE REMOVED AT A FREQUENCY SUFFICIENT TO MINIMIZE OFFSITE IMPACTS TO WATER QUALITY (E.G., FUGITIVE SEDIMENT IN STREET BEING WASHED INTO SURFACE STREAMS OR SENSITIVE FEATURES BY THE NEXT RAIN).

7. SEDIMENT MUST BE REMOVED FROM SEDIMENT TRAPS OR SEDIMENTATION PONDS NOT LATER THAN WHEN DESIGN CAPACITY HAS BEEN REDUCED BY 50%. A PERMANENT STAKE MUST BE PROVIDED THAT CAN INDICATE WHEN THE SEDIMENT OCCUPIES 50% OF THE BASIN VOLUME.

8. LITTER, CONSTRUCTION DEBRIS, AND CONSTRUCTION CHEMICALS EXPOSED TO STORMWATER SHALL BE PREVENTED FROM BECOMING A POLLUTANT SOURCE FOR STORMWATER DISCHARGES (E.G., SCREENING OUTFALLS, PICKED UP DAILY).

9. ALL SPOILS (EXCAVATED MATERIAL) GENERATED FROM THE PROJECT SITE MUST BE STORED ON-SITE WITH PROPER E&S CONTROLS. FOR STORAGE OR DISPOSAL OF SPOILS AT ANOTHER SITE ON THE EDWARDS AQUIFER RECHARGE ZONE, THE OWNER OF THE SITE MUST RECEIVE APPROVAL OF A WATER POLLUTION ABATEMENT PLAN FOR THE PLACEMENT OF FILL MATERIAL OR MASS GRADING PRIOR TO THE PLACEMENT OF SPOILS AT THE OTHER SITE.

10. STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, BUT IN NO CASE MORE THAN 14 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED. WHERE THE INITIATION OF STABILIZATION MEASURES BY THE 14TH DAY AFTER CONSTRUCTION ACTIVITY TEMPORARY OR PERMANENTLY CEASE IS PRECLUDED BY WEATHER CONDITIONS, STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE. WHERE CONSTRUCTION ACTIVITY ON A PORTION OF THE SITE IS TEMPORARILY CEASED, AND EARTH DISTURBING ACTIVITIES WILL BE RESUMED WITHIN 21 DAYS, TEMPORARY STABILIZATION MEASURES DO NOT HAVE TO BE INITIATED ON THAT PORTION OF SITE. IN AREAS EXPERIENCING DROUGHTS WHERE THE INITIATION OF STABILIZATION MEASURES BY THE 14TH DAY AFTER CONSTRUCTION ACTIVITY HAS TEMPORARILY OR PERMANENTLY CEASED IS PRECLUDED BY SEASONAL ARID CONDITIONS, STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE.

11. THE FOLLOWING RECORDS SHALL BE MAINTAINED AND MADE AVAILABLE TO THE TCEQ UPON REQUEST: THE DATES WHEN MAJOR GRADING ACTIVITIES OCCUR; THE DATES WHEN CONSTRUCTION ACTIVITIES TEMPORARILY OR PERMANENTLY CEASE ON A PORTION OF THE SITE; AND THE DATES WHEN STABILIZATION MEASURES ARE INITIATED.

12. THE HOLDER OF ANY APPROVED EDWARD AQUIFER PROTECTION PLAN MUST NOTIFY THE APPROPRIATE REGIONAL OFFICE IN WRITING AND OBTAIN APPROVAL FROM THE EXECUTIVE DIRECTOR PRIOR TO INITIATING ANY OF THE FOLLOWING:

   A. ANY PHYSICAL OR OPERATIONAL MODIFICATION OF ANY WATER POLLUTION ABATEMENT STRUCTURE(S), INCLUDING BUT NOT LIMITED TO PONDS, DAMS, BERMS, SEWAGE TREATMENT PLANTS, AND DIVERSIONARY STRUCTURES;

   B. ANY CHANGE IN THE NATURE OR CHARACTER OF THE REGULATED ACTIVITY FROM THAT WHICH WAS ORIGINALLY APPROVED OR A CHANGE WHICH WOULD SIGNIFICANTLY IMPACT THE ABILITY OF THE PLAN TO PREVENT POLLUTION OF THE EDWARDS AQUIFER;

   C. ANY DEVELOPMENT OF LAND PREVIOUSLY IDENTIFIED AS UNDEVELOPED IN THE ORIGINAL WATER POLLUTION ABATEMENT PLAN.

AUSTIN REGIONAL OFFICE
2800 S. IH 35, SUITE 100
AUSTIN, TEXAS 78704-5712
PHONE (512) 339-2929
FAX (512) 339-3795SAN ANTONIO REGIONAL OFFICE
14250 JUDSON ROAD

SAN ANTONIO, TEXAS 78233-4480
PHONE (210) 490-3096
FAX (210) 545-4329

THESE GENERAL CONSTRUCTION NOTES MUST BE INCLUDED ON THE CONSTRUCTION PLANS PROVIDED TO THE CONTRACTOR AND ALL SUBCONTRACTORS.

STATE OF TEXAS
MIRZA TAHIR BAIG
82577
REGISTERED
PROFESSIONAL ENGINEER

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY MIRZA TAHIR BAIG, P.E., #82577 ON 06/29/2013

FIRM REGISTRATION F-4951

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GENERAL NOTES

1. ALL CONSTRUCTION SHALL CONFORM TO THE CITY OF SAN ANTONIO STANDARD SPECIFICATIONS FOR CONSTRUCTION JUNE 2008, OR LATEST.
2. NO EXTRA PAYMENT SHALL BE ALLOWED FOR WORK CALLED FOR ON THE PLANS, BUT NOT INCLUDED IN THE BID PROPOSAL. THIS INCIDENTAL WORK WILL BE REQUIRED AND SHALL BE INCLUDED IN THE PAY ITEM TO WHICH IT RELATES.
3. THE CONTRACTOR SHALL PROVIDE ACCESS FOR THE DELIVERY OF MAIL BY THE U.S. POSTAL SERVICE.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING TO ITS ORIGINAL OR BETTER CONDITION ANY DAMAGE DONE TO EXISTING FENCES, CONCRETE ISLANDS, STREET PAVING, CURBS, SHRUBS, BUSHES OR DRIVEWAYS. (NO SEPARATE PAY ITEM).
5. IT IS THE CONTRACTOR'S RESPONSIBILITY TO SEE THAT ALL SIGNS AND BARRICADES ARE PROPERLY INSTALLED AND MAINTAINED. ALL LOCATIONS AND DISTANCES WILL BE DECIDED UPON IN THE FIELD BY THE CONTRACTOR, USING THE "TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" THE CITY'S CONSTRUCTION INSPECTOR AND TRAFFIC ENGINEERING REPRESENTATIVE WILL ONLY BE RESPONSIBLE TO INSPECT BARRICADES AND SIGNS. IF, IN THE OPINION OF THE TRAFFIC ENGINEERING REPRESENTATIVE AND THE CONSTRUCTION INSPECTOR, THE BARRICADES AND SIGNS DO NOT CONFORM TO ESTABLISHED STANDARDS OR ARE INCORRECTLY PLACED OR ARE INSUFFICIENT IN QUANTITY TO PROTECT THE GENERAL PUBLIC, THE CONSTRUCTION INSPECTOR SHALL HAVE THE OPTION TO STOP OPERATIONS UNTIL SUCH TIME AS THE CONDITIONS ARE CORRECTED.
6. IF THE NEED ARISES, ADDITIONAL BARRICADES AND DIRECTIONAL DEVICES MAY BE ORDERED BY THE TRAFFIC ENGINEERING REPRESENTATIVE AT THE CONTRACTOR'S EXPENSE.
7. DUE TO FEDERAL REGULATIONS TITLE 49, PART 192.171 C.P.S. MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT AND WORK AROUND ANY GAS VALVES THAT ARE IN THE PROJECT AREA.
8. CONTRACTOR SHALL NOTIFY THE CITY INSPECTOR TWENTY FOUR (24) HOURS PRIOR TO BACKFILL OF ANY UTILITY TRENCHES TO SCHEDULE FOR DENSITY TEST AS REQUIRED.
9. CONTRACTOR SHALL PRESERVE ALL CONSTRUCTION STAKES, MARKS, ETC. IF ANY ARE DESTROYED OR REMOVED BY THE CONTRACTOR OR HIS EMPLOYEES, THEY SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
10. CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES PRIOR TO CONSTRUCTION TO DETERMINE THE LOCATION OF EXISTING UTILITIES. CONTRACTOR SHALL NOTIFY THE FOLLOWING AT LEAST FORTY-EIGHT (48) HOURS PRIOR TO EXCAVATION OPERATION:

SAN ANTONIO WATER SYSTEM (SAWS)	233-2010
BEXAR METROPOLITAN WATER DISTRICT (BEXAR MET)	354-6538 / 357-5741
COSA DRAINAGE	207-8048
COSA SIGNAL OPERATIONS	207-7720 / 207-7765
TEXAS STATE WIDE ONE CALL LOCATOR	1-800-344-8377
- CITY PUBLIC SERVICE ENERGY	
- TIME WARNER	
- AT&T	
- MCI	

11. THE EXISTENCE AND LOCATION OF UNDERGROUND UTILITIES INDICATED ON THE PLANS ARE TAKEN FROM AVAILABLE RECORDS AND ARE NOT GUARANTEED, BUT SHALL BE INVESTIGATED AND VERIFIED BY THE CONTRACTOR BEFORE STARTING WORK. THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY DAMAGE TO AND FOR THE MAINTENANCE AND PROTECTION OF THE EXISTING UTILITIES EVEN IF THEY ARE NOT SHOWN ON THE PLANS. LOCATION AND DEPTH OF EXISTING UTILITIES SHOWN HERE ARE APPROXIMATE ONLY. ACTUAL LOCATIONS AND DEPTHS MUST BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION AND HE SHALL BE RESPONSIBLE FOR PROTECTION OF SAME DURING CONSTRUCTION.
12. ALL WASTE MATERIAL SHALL BECOME PROPERTY OF THE CONTRACTOR AND SHALL BE HIS SOLE REPONSIBILITY TO DISPOSE OF THIS MATERIAL OFF THE LIMITS OF THE PROJECT. NO WASTE MATERIAL SHALL BE PLACED IN EXISTING LOWS THAT WILL BLOCK OR ALTER FLOW LIMITS OF EXISTING ARTIFICIAL OR NATURAL DRAINAGE.
13. THE CONTRACTOR SHALL NOT PLACE ANY WASTE MATERIAL IN THE 100-YEAR FLOOD PLAIN WITHOUT FIRST OBTAINING AN APPROVED FLOOD PLAIN DEVELOPMENT PERMIT.
14. THE CONTRACTOR SHALL MAINTAIN ALL ADJOINING STREETS AND TRAVELED ROUTES FREE FROM SPILLED AND /OR TRACKED CONSTRUCTION MATERIALS AND /OR DEBRIS.
15. IF THE CONTRACTOR ENCOUNTERS ANY ARCHAEOLOGICAL DEPOSITS DURING CONSTRUCTION OPERATIONS, THE CONTRACTOR MUST STOP EXCAVATION IMMEDIATELY, CONTACT THE CITY INSPECTOR, AND CALL THE CITY HISTORIC PRESERVATION OFFICE AT 207-7306 OR 207-3327 FOR AN ARCHAEOLOGICAL INVESTIGATION. THE CONTRACTOR CANNOT BEGIN EXCAVATION AGAIN WITHOUT WRITTEN PERMISSION FROM THE CITY.
    IF MORE THAN THREE (3) DAYS ARE REQUIRED FOR INVESTIGATION (NOT INCLUDING HOLIDAY AND WEEKENDS) AND IF THE CONTRACTOR IS UNABLE TO WORK IN OTHER AREAS, THEN THE CONTRACTOR WILL BE ALLOWED TO NEGOTIATE FOR ADDITIONAL CONSTRUCTION TIME UPON WRITTEN REQUEST WITHIN TEN (10) DAYS AFTER THE FIRST NOTICE TO THE CITY OF ARCHAEOLOGICAL INVESTIGATION FOR EACH EVENT.
    IF THE TIME REQUIRED FOR INVESTIGATION IS LESS THAN OR EQUAL TO THREE (3) DAYS FOR EACH EVENT, CONTRACT DURATION WILL NOT BE EXTENDED.
16. IF SUSPECTED CONTAMINATION IS ENCOUNTERED DURING CONSTRUCTION OPERATIONS, C.O.S.A. SHALL BE NOTIFIED IMMEDIATELY WHEN CONTAMINATED SOILS AND /OR GROUNDWATER ARE ENCOUNTERED AT LOCATIONS NOT IDENTIFIED IN THE PLANS. THE NOTIFICATION SHOULD INCLUDE THE STATION NUMBER, TYPE OF CONTAMINATED MEDIA, EVIDENCE OF CONTAMINATION AND MEASURES TAKEN TO CONTAIN THE CONTAMINATED MEDIA AND PREVENT PUBLIC ACCESS. THE CONTAMINATED SOIL AND /OR GROUNDWATER SHALL NOT BE REMOVED FROM THE LOCATION WITHOUT PRIOR C.O.S.A. APPROVAL.
    THE CONTRACTOR MUST STOP THE EXCAVATION IMMEDIATELY AND CONTACT THE C.O.S.A. INSPECTOR. THE CONTRACTOR CANNOT BEGIN EXCAVATION ACTIVITIES WITHOUT WRITTEN PERMISSION FROM THE CITY.
17. CONTRACTOR IS TO INCLUDE A MAILBOX POST BLOCKOUT FOR VACANT LOTS AND ALL RESIDENCES WHICH DO NOT HAVE MAILBOXES AT THE CURB. BLOCKOUTS ARE PROVIDED FOR FUTURE USE BY THE POST OFFICE.
18. CONTRACTOR SHALL NOT REMOVE OR ADJUST ANY VIA FACILITIES. THE CONTRACTOR MUST CONTACT VIA FOURTEEN DAYS PRIOR, FOR THE REMOVAL OF BENCHES, STOP POLES OR ANY OTHER VIA FACILITIES THAT MAY BE PRESENT. PLEASE PROVIDE THIRTY DAYS PRIOR NOTICE FOR SHELTER REMOVAL (TELEPHONE NOS: (210) 362-2156 OR (210) 362-2096). THE CONTRACTOR WILL BE LIABLE FOR ANY DAMAGES TO VIA FACILITIES NOT REMOVED BY VIA. THE CONTRACTOR IS REQUIRED TO REPLACE ALL FLATWORK REMOVED OR DAMAGED IN THE COURSE OF EXECUTING THE CONTRACT UNLESS OTHERWISE NOTED BY VIA. THE CONTRACTOR WILL BE RESPONSIBLE FOR PROTECTING VIA FACILITIES IF ADJACENT TO WORK AREA.

TREE PROTECTION AND PRESERVATION GENERAL NOTES

1. NO UTILITY OR STREET EXCAVATION WORK SHALL BEGIN IN AREAS WHERE TREE PRESERVATION AND TREATMENT MEASURES HAVE NOT BEEN COMPLETED AND APPROVED.
2. TREE PROTECTION FENCING SHALL BE REQUIRED. TREE PROTECTION FENCING SHALL BE INSTALLED, MAINTAINED AND REPAIRED BY THE CONTRACTOR DURING SITE CONSTRUCTION. DURING CONSTRUCTION ACTIVITY, AT LEAST A SIX-INCH LAYER OF COARSE MULCH SHALL BE PLACED AND MAINTAINED OVER THE ROOT PROTECTION ZONE (NO SEPARATE PAY ITEM).
3. THE CONTRACTOR SHALL AVOID CUTTING ROOTS LARGER THAN ONE INCH IN DIAMETER WHEN EXCAVATING NEAR EXISTING TREES. EXCAVATION IN THE VICINITY OF TREES SHALL PROCEED WITH CAUTION. THE CONTRACTOR SHALL CONTACT THE CITY INSPECTOR FOR GUIDANCE.
4. ROOTS WILL BE CUT WITH A ROCK SAW OR BY HAND, NOT BY AN EXCAVATOR OR OTHER ROAD CONSTRUCTION EQUIPMENT.
5. ALL CURB AND SIDEWALK WORK SHALL USE ALTERNATIVE CONSTRUCTION METHODS TO MINIMIZE EXTENSIVE ROOT DAMAGE TO TREES (REFER TO DETAILS).
6. EXPOSED ROOTS SHALL BE COVERED AT THE END OF THE DAY USING TECHNIQUES SUCH AS COVERING WITH SOIL, MULCH, OR WET BURLAP.
7. NO EQUIPMENT, VEHICLES OR MATERIALS SHALL OPERATE OR BE STORED WITHIN THE ROOT PROTECTION ZONE OF ANY TREE NEAR THE PROJECT. ROOT PROTECTION ZONE IS 1 FOOT OF RADIUS PER INCH OF TREE'S DIAMETER. A 10-INCH DIAMETER TREE WOULD HAVE A 10 FOOT RADIUS ROOT PROTECTION ZONE AROUND THE TREE. ROOTS OR BRANCHES IN CONFLICT WITH THE CONSTRUCTION SHALL BE CUT CLEANLY ACCORDING TO PROPER PRUNING METHODS. OAK WOUNDS SHALL BE PAINTED OVER WITHIN 30 MINUTES TO PREVENT OAK WILT.
8. SAPLINGS, SHRUBS OR BUSHES TO BE CLEARED FROM THE PROTECTED ROOT ZONE AREA OF A LARGE TREE SHALL BE REMOVED BY HAND AS DESIGNATED BY THE INSPECTOR.
9. NO WIRES, NAILS OR OTHER MATERIAL MAY BE ATTACHED TO PROTECTED TREES.
10. TREES, TREE LIMBS, BUSHES AND SHRUBS LOCATED IN THE CITY STREET OR ALLEY RIGHT-OF-WAY OR PERMANENT EASEMENTS WHICH INTERFERE WITH PROPOSED CONSTRUCTION ACTIVITIES SHALL BE PROPERLY PRUNED FOLLOWING THE ANSI A-300 STANDARDS FOR PRUNING. ALL TREE PRUNING SHALL BE COMPLETED BY A CITY OF SAN ANTONIO TREE MAINTENANCE LICENSED CONTRACTOR (ARTICLE 21-171, CITY CODE) ONLY AFTER APPROVAL FROM THE CAPITAL PROJECTS MANAGEMENT THROUGH THE INSPECTOR.
11. NO EXCESSIVE TREE TRIMMING WILL BE PERMITTED.
12. ALL DEBRIS GENERATED BY THE PRUNING AND TRIMMING OF THE TREES AND /OR BUSHES SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF PROPERLY (NO SEPARATE PAY ITEM).
13. TREES MUST BE MAINTAINED IN GOOD HEALTH THROUGHOUT THE CONSTRUCTION PROCESS. MAINTENANCE MAY INCLUDE, BUT NOT LIMITED TO: WATERING THE ROOT PROTECTION ZONE, WASHING FOLIAGE, FERTILIZATION, PRUNING, ADDITIONAL MULCH APPLICATIONS AND OTHER MAINTENANCE AS NEEDED ON THE PROJECT.
14. ANY TREE REMOVAL SHALL BE APPROVED BY THE CITY ARBORIST. (207-8053)
15. TREES WHICH ARE DAMAGED OR LOST DUE TO THE CONTRACTOR'S NEGLIGENCE DURING CONSTRUCTION SHALL BE MITIGATED TO THE CITY'S SATISFACTION.
16. TREE PLANTING FOR MITIGATION OR ENHANCEMENT: ALL PLANTED TREES SHALL BE MAINTAINED IN A HEALTHY CONDITION AT ALL TIMES. THIS INCLUDES IRRIGATION, FERTILIZING, PRUNING AND OTHER MAINTENANCE AS NEEDED ON THE PROJECT. TREES THAT DIE WITHIN TWELVE (12) MONTHS SHALL BE REPLACED WITH A TREE OF EQUAL SIZE AND SPECIES.

ACCESSIBILITY REQUIREMENTS

1. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN VEHICULAR AND PEDESTRIAN ACCESS AT ALL TIMES TO LOCAL RESIDENCES AND BUSINESSES.
2. WHEN THE WORK REQUIRES THE EXCAVATION OF THE STREET AND THE REMOVAL OF THE EXISTING DRIVEWAY APPROACHES AND SIDEWALKS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING TEMPORARY ALL-WEATHER ACCESS TO THE BUSINESSES AND RESIDENCES. THE TEMPORARY DRIVEWAY APPROACHES SHALL BE CONSTRUCTED WITH FLEXIBLE BASE OR GRAVEL MATERIAL AT NO SEPARATE COST TO THE CITY.
3. PRIOR TO INITIATING THE CONSTRUCTION OF NEW DRIVEWAY APPROACHES, THE CONTRACTOR SHALL GIVE ADVANCE WARNING IN PERSON OR IN WRITING, OF AT LEAST 48 HOURS TO EACH RESIDENCE THAT WILL BE IMMEDIATELY AFFECTED, SO THAT ALTERNATE PLANS MAY BE MADE BY THE RESIDENTS.
4. FOR BUSINESSES WITH MORE THAN ONE DRIVEWAY, AT LEAST ONE DRIVEWAY SHALL REMAIN OPEN WHILE THE OTHER NEW DRIVEWAY APPROACHES ARE CONSTRUCTED. FOR BUSINESSES WITH ONLY ONE DRIVEWAY, THE NEW DRIVEWAY APPROACH SHALL BE CONSTRUCTED IN HALF WIDTHS, UNLESS A TEMPORARY ASPHALT DRIVEWAY IS FIRST INSTALLED AT NO SEPARATE COST TO THE CITY.

CITY OF SAN ANTONIO PLAN REVIEWER DEVELOPMENT SERVICES DEPT.

No.	Description	Date	Drawn
6	ISSUED FOR APPROVAL	06/29/13	
5	ISSUED FOR APPROVAL	05/22/13	
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CONSULTING CIVIL AND STRUCTURAL ENGINEERS
12710 RESEARCH BLVD., SUITE 380, AUSTIN, TX 78759 | TEL 512.238.6422 | FAX 512.258.8095

Project : NORTH LOOP RETAIL CENTER
226 & 238 TEXAS LOOP 1604
SAN ANTONIO, TEXAS 78232

Title : GENERAL NOTES

PROJECT 28001

SHEET 2 OF 26

SITE DESCRIPTION

PROJECT NAME AND LOCATION:

CONTACT AND PHONE NO.:

PROJECT DESCRIPTION:

MAJOR SOIL DISTURBING ACTIVITIES:

TOTAL PROJECT AREA (ACRES):

TOTAL AREA TO BE DISTURBED:

WEIGHTED RUNOFF COEFFICIENT:
(AFTER CONSTRUCTION)

EXISTING CONDITION OF SOIL, VEGETATIVE
COVER AND % OF VEGETATIVE COVER:

DESCRIPTION OF WATER DISCHARGED NOT ASSOCIATED WITH CONSTRUCTION:

NAME OF RECEIVING WATERS:

IDENTIFY STORMWATER DISCHARGE POINTS:

A DESCRIPTION AND TIME FRAME FOR INSTALLATION OF
STABILIZATION PRACTICES IN CONJUNCTION WITH CONSTRUCTION:

EROSION AND SEDIMENTATION CONTROLS

SOIL STABILIZATION PRACTICES:

_____HYDROMULCHING
_____TEMPORARY SEEDING
_____PERMANENT PLANTING, SODDING OR SEEDING
_____MULCHING
_____SOIL RETENTION BLANKET
_____BUFFER ZONES
_____PRESERVATION OF NATURAL RESOURSES

OTHER:

DISTURBED AREAS ON WHICH CONSTRUCTION ACTIVITY HAS CEASED TEMPORARILY OR PERMANENTLY, SHALL BE STABILIZED WITHIN 14 DAYS UNLESS ACTIVITIES ARE SCHEDULED TO RESUME AND DONE WITHIN 21 DAYS.

STRUCTURAL PRACTICES:

_____SILT FENCES
_____HAY BALES
_____GRAVEL FILTRATION BAGS
_____ROCK BERMS
_____DIVERSION, INTERCEPTOR OR PERIMETER DIKES
_____DIVERSION, INTERCEPTOR OR PERIMETER SWALES
_____DIVERSION, DIKE AND SWALE COMBINATIONS
_____PAVED FLUMES
_____ROCK BEDDING AT CONSTRUCTION EXIT (STABILIZED ENTRANCE)
_____TIMBER MATTING AT CONSTRUCTION EXIT (STABILIZED ENTRANCE)
_____CHANNEL LINERS
_____SEDIMENT TRAPS
_____SEDIMENT BASINS
_____STORM INLET SEDIMENT TRAP
_____STONE OUTLET SEDIMENT STRUCTURES
_____CURBS AND GUTTERS
_____STORM SEWERS
_____VELOCITY CONTROL STRUCTURES
_____GEOTEXTILES

OTHER:

NARRATIVE – SEQUENCE OF CONSTRUCTION
(STORMWATER MANAGEMENT) ACTIVITIES:
THE ORDER OF ACTIVITIES WILL BE AS FOLLOWS:

A DESCRIPTION OF MAINTENANCE
PROCEDURES FOR CONTROL MEASURES USED:

STORMWATER MANAGEMENT:

A DESCRIPTION OF PERMANENT
STORM WATER MANAGEMENT CONTROLS:

OTHER EROSION AND SEDIMENTATION CONTROLS

MAINTENANCE:

ALL EROSION AND SEDIMENT CONTROLS WILL BE MAINTAINED IN GOOD WORKING ORDER. IF A REPAIR IS NECESSARY, IT WILL BE DONE AT THE EARLIEST DATE POSSIBLE, BUT NO LATER THAN 7 CALENDAR DAYS AFTER THE SURROUNDING EXPOSED GROUND HAS DRIED SUFFICIENTLY TO PREVENT FURTHER DAMAGE FROM HEAVY EQUIPMENT. THE AREAS ADJACENT TO CREEKS AND DRAINAGEWAYS SHALL HAVE PRIORITY, FOLLOWED BY DEVICES PROTECTING STORM SEWER INLETS.

INSPECTION:

AN INSPECTION WILL BE PERFORMED BY THE CONTRACTOR EVERY 14 DAYS AS WELL AS AFTER EVERY 1 / 2" OR MORE OF RAIN (RECORDED ON A NON-FREEZING RAIN GAUGE TO BE LOCATED AT THE PROJECT SITE). AN INSPECTION AND MAINTENANCE REPORT WILL BE MADE PER INSPECTION. BASED ON THE INSPECTION RESULTS, THE CONTROLS SHALL BE CORRECTED BEFORE THE NEXT SCHEDULED INSPECTION.

WASTE MATERIALS:

ALL WASTE MATERIALS WILL BE COLLECTED AND STORED IN A SECURELY LIDDED METAL DUMPSTER. THE DUMPSTER WILL MEET ALL STATE AND LOCAL CITY SOLID WASTE MANAGEMENT REGULATIONS. ALL TRASH AND CONSTRUCTION DEBRIS FROM THE SITE WILL BE DEPOSITED IN THE DUMPSTER. THE DUMPSTER WILL BE EMPTIED AS NECESSARY OR AS REQUIRED BY LOCAL REGULATION AND THE TRASH WILL BE HAULED TO A LOCAL DUMP. NO CONSTRUCTION MATERIALS WILL BE BURIED ON SITE.

HAZARDOUS WASTE (INCLUDING SPILL REPORTING):

AT A MINIMUM, ANY PRODUCTS IN THE FOLLOWING CATEGORIES ARE CONSIDERED TO BE HAZARDOUS: PAINTS, ACIDS FOR CLEANING MASONRY SURFACES, GASOLINE, MOTOR OIL, CLEANING SOLVENTS, ASPHALT PRODUCTS, CHEMICAL ADDITIVES FOR SOIL STABILIZATION OR CONCRETE CURING COMPOUNDS AND ADDITIVES. IN THE EVENT OF A SPILL WHICH MAY BE HAZARDOUS AND MEETS REPORTING REQUIREMENTS, THE NATIONAL RESPONSE CENTER SHOULD BE CONTACTED AT 800-424-8802, AND ANY REQUIRED CHANGES MADE TO THE SWPPP. IN THE EVENT OF A LIFE THREATENING SPILL THE SAN ANTONIO FIRE DEPARTMENT SHOULD BE NOTIFIED AS WELL AS THE APPROPRIATE CITY INSPECTORS.

SANITARY WASTE

OFFSITE EXCAVATION SOURCE LOCATION

OFFSITE FILL SOURCE LOCATION

OFFSITE VEHICLE TRACKING

_____ HAUL ROADS DAMPENED FOR DUST CONTROL.
_____ LOADED HAUL TRUCKS TO BE COVERED WITH TARPAULIN
_____ EXCESS DIRT ON ROAD TO BE REMOVED DAILY
_____ STABILIZED CONSTRUCTION ENTRANCE.

OTHER:

CERTIFICATION THAT SITE DISTURBANCE AND / OR DISCHARGES WILL NOT EFFECT LISTED ENDANGERED SPECIES AND THEIR HABITAT.
WHAT METHOD IS USED TO SATISFY THE ENDANGERED SPECIES REQUIREMENTS?

REMARKS:

DISPOSAL AREAS, STOCKPILES AND HAUL ROADS SHALL BE CONSTRUCTED IN A MANNER THAT WILL MINIMIZE AND CONTROL THE AMOUNT OF SEDIMENT THAT ENTERS RECEIVING WATERS. DISPOSAL AREAS SHALL NOT BE LOCATED IN ANY WETLAND, BODY OF WATER, STREAMBED OR FLOODPLAIN CONSTRUCTION STAGING AREAS AND VEHICLE MAINTENANCE AREAS SHALL BE CONSTRUCTED BY THE CONTRACTOR IN A MANNER TO MINIMIZE THE RUNOFF OF POLLUTANTS. ALL WATERWAYS SHALL BE CLEARED AS SOON AS POSSIBLE OF TEMPORARY EMBANKMENT, TEMPORARY BRIDGES, MATTING, FALSEWORK, PILING DEBRIS OR OTHER OBSTRUCTION PLACED DURING CONSTRUCTION OPERATIONS THAT ARE NOT PART OF THE FINISHED WORK.

JANUARY 2005

STANDARD PLANS
CITY OF SAN ANTONIO, TEXAS
DEPARTMENT OF PUBLIC WORKS

STORM WATER POLUTION
PREVENTION PLAN (SWP3) NARRATIVE

DRAWN BY: V. VASQUEZ	DATE	REVISIONS	SCALE:
CHECKED BY: NAT HARDY, P.E.			DATE:
			SHEET: OF

CITY OF SAN ANTONIO PLAN REVIEWER
DEVELOPMENT SERVICES DEPT

STATE OF TEXAS
MIRZA TAHIR BAIG
82577
REGISTERED PROFESSIONAL ENGINEER

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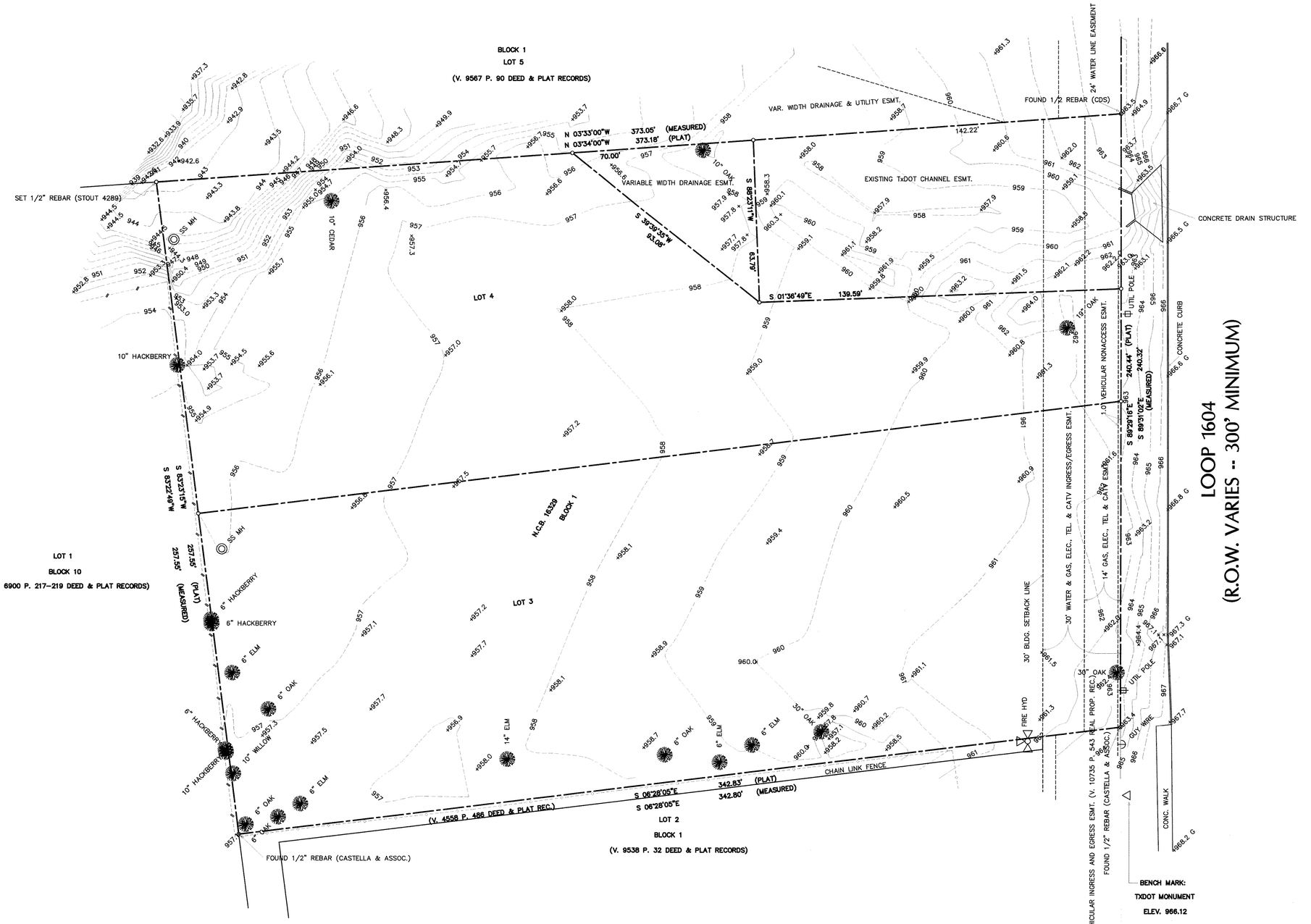
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Project:
NORTH LOOP RETAIL CENTER
226 & 238 TEXAS LOOP 1604
SAN ANTONIO, TEXAS 78232

Title:
WATER POLLUTION PREVENTION PLAN

PROJECT 28001

SHEET 3 OF 26



LOOP 1604
(R.O.W. VARIES -- 300' MINIMUM)

W
S N
E

SCALE 1"=20'

STATE OF TEXAS
MIRZA TAHIR BAIG
82577
REGISTERED
PROFESSIONAL ENGINEER

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FIRM REGISTRATION F-4951

I HEREBY CERTIFY THAT THE ABOVE PLAT IS TRUE AND CORRECT ACCORDING TO AN ACTUAL SURVEY MADE ON THE GROUND UNDER MY SUPERVISION AND THAT THERE IS NO VISIBLE EVIDENCE OF EASEMENTS OR ENCROACHMENTS EXCEPT AS SHOWN HEREON.

THIS 18TH DAY OF APRIL, 2008.

RANDALL L. STOUT, RPLS NO 4289

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CITY OF SAN ANTONIO PLAN REVIEW DEVELOPMENT SERVICES DEPT

BOUNDARY, TOPOGRAPHIC AND TREE SURVEY OF

LOTS 3 AND 4, BLOCK 1, N.C.B. 16329, ALLEN – 1604 SUBDIVISION
AS RECORDED IN VOL. 9546 PG. 33, DEED & PLAT RECORDS OF BEXAR CO., TEXAS
LOCATED ON LOOP 1604, CITY OF SAN ANTONIO, BEXAR COUNTY, TEXAS

date: 4-18-08	revisions:	R. L. STOUT SURVEY CO., INC.
drawn by: RANDY		7018 Jefferson Ridge Dr. Office: 210-655-0300
checked JLO	job no.	Converse, Tx. 78109 Fax: 210-655-1914

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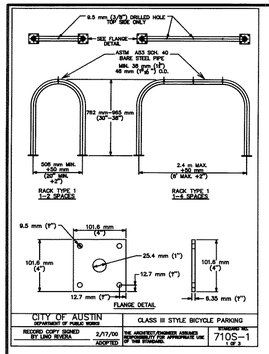
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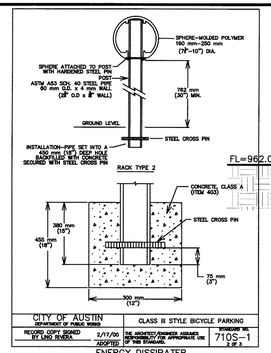
Project: NORTH LOOP RETAIL CENTER
226 & 238 TEXAS LOOP 1604
SAN ANTONIO, TEXAS 78232

Title: EXISTING SURVEY

PROJECT 28001

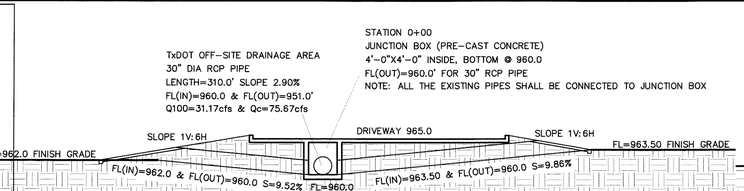
SHEET 4 OF 26





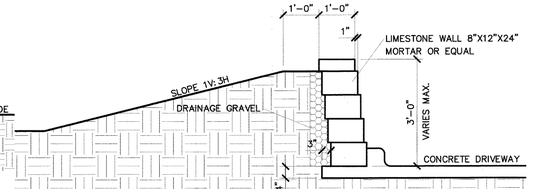
TxDOT OFF-SITE DRAINAGE AREA
30" DIA RCP PIPE
LENGTH=310.0' SLOPE 2.90%
FL(IN)=960.0 & FL(OUT)=951.0'
Q100=31.17cfs & Qc=75.67cfs

STATION 0+00
JUNCTION BOX (PRE-CAST CONCRETE)
4'-0"X4'-0" INSIDE, BOTTOM @ 960.0
FL(OUT)=960.0' FOR 30" RCP PIPE
NOTE: ALL THE EXISTING PIPES SHALL BE CONNECTED TO JUNCTION BOX



DRIVEWAY CULVERT PROFILE
SCALE 1"=10'-0"

DRIVEWAY CULVERT
1-24" RCP PIPE LENGTH=66.0'
Q100=31.17CFS Qc=75.93CFS (PIPE CAPACITY)
REFER SHEET #21



LANDSCAPE WALL DETAIL
SCALE 1/2"=1'-0"

STATION 3+10.00
OUTLET STRUCTURE
30" RCP PIPE, FL(OUT)=951.00
SAFETY END TREATMENT
AS PER SHEET #21

ENERGY DISSIPATER
GABION WALL
L=25'-0" & HT=12"
FOR SHEET FLOW
Q100=16.61cfs V=3.26fps

ENERGY DISSIPATER
8'-0"X4'-0"
STONE 3"-5"

N 03°33'00"W
N 03°34'00"W
373.05' (MEASURED)
373.18' (PLAT)

PROPERTY LINE=N.O.C.

VAR. WIDTH DRAINAGE & UTILITY ESMT.

PROPERTY LINE=LIMIT OF CONSTRUCTION

15' DRAINAGE EASEMENT (TxDOT)

15' DRAINAGE EASEMENT (TxDOT) (OFF-SITE) DOC. #

LOT 4
BLOCK 1 N.C.B. 16329

DUMPSTER PAD

FILTRATION POND
709.33 SQ.FT.

WATER QUALITY POND
SEDIMENTATION POND
776.44 SQ.FT.

18" DIA HDPE PIPE L=87.0' SLOPE 7.04%
FL(IN)=952.13 & FL(OUT)=944.0
Qc=30.19cfs & Q100=16.61cfs

BUILDING NO.1 (PROPOSED)
FIRST FLOOR 6,900 SQ.FT.
2nd FLOOR 7,383.48 SQ.FT.
F.F. 962.70

BUILDING NO.2 (PROPOSED)
FIRST FLOOR 6,900 SQ.FT.
SECOND FLOOR 7,383.48 SQ.FT.
F.F. 962.70

STAIRCASE
ELEVATOR
RISER ROOM
6'-0" WIDE SIDEWALK
4'-0" WIDE S/W
5'-0" WIDE S/W
7'-0"
9'-0"
11'-0"
4'-0" SIDEWALK

PARKING 9'-0"X18'-0"

25'-0" WIDE DRIVEWAY

26'-0" WIDE DRIVEWAY

35'-0" WIDE DRIVEWAY

PROPOSED SHOULDER EDGE
PROPOSED TRAVEL LANE EDGE
EXISTING SHOULDER EDGE
EXISTING SHOULDER WIDTH 8'-0"
PROPOSED SHOULDER 4'-0" WIDTH
PROPOSED TRAVEL LANE (PROPOSED) 12'-0" WIDE
TRAVEL LANE EDGE
PROPOSED SHOULDER WIDTH 4'-0"
PROPOSED PAVEMENT WIDTH 8'-0",8'-0"
EXISTING SHOULDER WIDTH

R1=600'-0"
R2=300'-0"
R=25.0'
R=40.0'
R=3.0'
R=178.50'

STATION 0+375.00
STATION 0+245.00
STATION 0+30.00
STATION 0+55.25
STATION 0+0.00

ALL MARKINGS SHALL CONFIRM TO THE TEXAS MANUAL ON UNIFORM TRAFFIC DEVICES.

PROPOSED SHOULDER EDGE
PROPOSED TRAVEL LANE (PROPOSED) 12'-0" WIDE
TRAVEL LANE EDGE
EXISTING SHOULDER EDGE
EXISTING SHOULDER WIDTH 8'-0"
PROPOSED SHOULDER 4'-0" WIDTH
PROPOSED 6'-0" WIDE SIDEWALK FUTURE (BY OTHERS)
EXISTING SHOULDER EDGE
PROPOSED TRAVEL LANE EDGE
PROPOSED SHOULDER EDGE
EXISTING SHOULDER WIDTH 8'-0"
PROPOSED 6'-0" WIDE SIDEWALK
EXISTING 6'-0" WIDE SIDEWALK
PROPOSED 6'-0" WIDE SIDEWALK FUTURE (BY OTHERS)
PROPOSED 6'-0" WIDE SIDEWALK RAMP
6'-0" WIDE SIDEWALK PROPOSED
LIMIT OF CONSTRUCTION

PROPERTY LINE
WSEL 100
10.00'
24'
PARKING LOT

GRASS CHANNEL SECTION (OFF-SITE)
LENGTH=215.0' WIDTH=8.75' SLOPE 1.86%
Q100=20.51cfs, V=4.29fps, H=11.6"
Q25=15.16cfs, V=3.97fps, H=10.1"

257.55' (MEASURED)
257.55' (PLAT)
S 83°22'49"W
S 83°23'15"W

LOT 1
BLOCK 10

LOT 3
BLOCK 1 N.C.B. 16329

LOT 2
BLOCK 1

LOT 1
BLOCK 9

PROPERTY LINE=LIMIT OF CONSTRUCTION

FOUND 1/2" REBAR (CASTELLA & ASSOC.)

S 06°28'05"E 342.83' (PLAT)
S 06°28'05"E 342.80' (MEASURED)
(V. 4558 P. 486 DEED & PLAT REC.)

37'-2 1/2" 61'-6" 18'-0" 25'-0" 18'-0" 11'-0" 9'-0" 12'-0" 75'-0" 76'-1 1/2"

105'-4 1/2"

LIMESTONE WALL 8"X12"X24" MORTAR OR EQUAL

14' GAS, ELEC., TEL & CATV ESMT.

30' WATER & GAS, ELEC., TEL & CATV INGRESS/EGRESS ESMT. (V. 10735 P. 543 REAL PROP. REC.)

25' PEDESTRIAN & VEHICULAR INGRESS AND EGRESS ESMT. (V. 10735 P. 543 REAL PROP. REC.)

6'-0" WIDE SIDEWALK PROPOSED RAMP

6'-0" WIDE SIDEWALK FUTURE (BY OTHERS)

6'-0" WIDE SIDEWALK PROPOSED

W/ HANDRAIL AS PER ADA RAMP 1:12 L=24.0'

48" ACCESSIBLE ROUTE

9 BICYCLE SPACES AS PER UDC SEC. 35-526(B) ALSO REFER DTL 710S-1

RAMP 1:12 L=24.0' W/ HANDRAIL AS PER ADA

LANDSCAPE WALL
CMU BLOCK TOP @ 964.50
36" HEIGHT MAX.

CONCRETE CHANNEL V-SHAPE
18" WIDE SLOPE 2.5%

INLET NO:1 L=10.0'

INLET NO:2 L=93.0'

UTIL POLE

24" WATER LINE EASEMENT

14' GAS, ELEC., TEL & CATV ESMT.

LOOP 1604
(R.O.W. VARIES ~ 300' MIN

SCALE 1"=20'

STATION 0+00
JUNCTION BOX (PRE-CAST CONCRETE)
4'-0"X4'-0" INSIDE, BOTTOM @ 960.0
FL(OUT)=960.0' FOR 30" RCP PIPE
NOTE: ALL THE EXISTING PIPES SHALL BE CONNECTED TO JUNCTION BOX

DRIVEWAY CULVERT
1-24" RCP PIPE LENGTH=66.0'
FL(IN)=963.50 & FL(OUT)=960.0 S=9.86% (RIGHT END)
FL(IN)=962.0 & FL(OUT)=960.0 S=9.52% (LEFT END)
Q100=31.17CFS Qc=75.93CFS (PIPE CAPACITY)
REFER SHEET #21

LANDSCAPE WALL
CMU BLOCK TOP @ 964.50
36" HEIGHT MAX.

ALL MARKINGS SHALL CONFIRM TO THE TEXAS MANUAL ON UNIFORM TRAFFIC DEVICES.

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY MIRZA TAHIR BAIG, P.E., #82577 ON 06/29/2013

FIRM REGISTRATION F-4951

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STATE OF TEXAS
MIRZA TAHIR BAIG
82577
LICENSED
PROFESSIONAL ENGINEER

Revision	Description	Date	Drawn
6	ISSUED FOR APPROVAL	06/29/13	
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1	ISSUED FOR APPROVAL	03/28/13	
0	ISSUED FOR APPROVAL	01/30/13	

TRANSPORTATION SPECIAL NOTES:

1) CALL CITY CONSTRUCTION INSPECTOR AT 210.207.1111, OPTION 0 PRIOR TO COMMENCING ANY WORK OR POURING CONCRETE.
2) CONTACT ELWERD WIEDERHOLD AT 207-2806 TWENTY FOUR (24) HOURS FOR INSPECTIONS PRIOR TO POURING CONCRETE AND / OR TRAFFIC (PARKING) INSPECTIONS.
3) CALL 207-2806 FOR SIDEWALK, DRIVEWAY INSPECTIONS BEFORE POURING CONCRETE.
4) CURBS TO REMAIN IF TO CITY AND TAS SPECIFICATIONS. IF NOT COMPLIANT THEY SHALL BE RECONSTRUCTED TO MEET CITY AND TAS SPECIFICATIONS.
5) ALL ACCESS DRIVEWAYS SHALL BE PROVIDED WITH CLEAR VISION AREA IN ACCORDANCE WITH UDC 35-506 (D) (5) CLEAR VISION AREAS MUST BE FREE OF VISUAL OBSTRUCTIONS, E.G. STRUCTURES, WALLS, FENCES AND VEGETATION WHICH ARE HIGHER THAN THREE (3) FEET AND LOWER THAN EIGHT (8)

R.O.W. IMPROVEMENT PLAN
SCALE 1"=20'

CITY OF SAN ANTONIO
PLANS RECOMMENDED
DEVELOPMENT SERVICES DEPT.

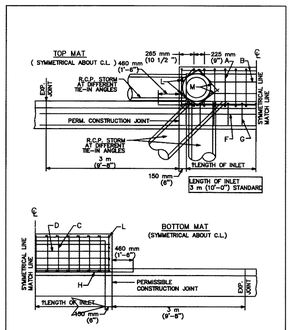
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CONSULTING CIVIL AND STRUCTURAL ENGINEERS
12710 RESEARCH BLVD. SUITE 390, AUSTIN, TX 78759 | TEL: 512.238.6422 | FAX: 512.258.8095

Project :
NORTH LOOP RETAIL CENTER
226 & 238 TEXAS LOOP 1604
SAN ANTONIO, TEXAS 78232

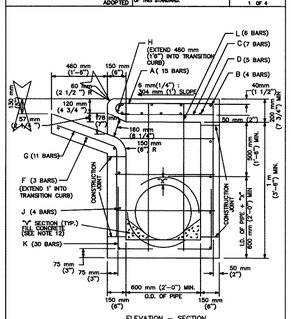
Title :
DIMENSIONAL SITE PLAN

PROJECT
28001

SHEET
5
OF 26



CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	TYPICAL DETAILS FOR CURB INLET	
RECORD COPY SIGNED BY: BILL GARDNER	12/09/08 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.
		STANDARD NO. 508S-3 1 OF 4

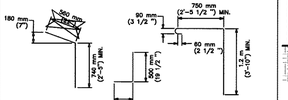


CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	TYPICAL DETAILS FOR CURB INLET	
RECORD COPY SIGNED BY: BILL GARDNER	12/09/08 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.
		STANDARD NO. 508S-3 2 OF 4

TABLE OF QUANTITIES
FOR 18" OUTLET PIPE
REINFORCING STEEL QUANTITIES

BARS	SIZE	SPACING	NUMBER	LENGTH	WEIGHT
A	4	230mm (9")*	15	2 m (7'-0")	73
B	4	250 mm (10")	4	3.20 m (10'-8")	29
C	4	460 mm (18")	7	780 mm (2'-6")	12
D	5	150 mm (6")	5	3.20 m (10'-8")	80
E	4	300 mm (12")	6	760 mm (2'-6")	10
F	4	250 mm (10")	3	4 m (13'-0")	35
G	4	300 mm (12")	11	1.25 m (4'-2")	31
H	5		1	4.25 m (14'-0")	20
J	4	300 mm (12")	7	3.20 m (10'-8")	50
K	4	230 mm (9")*	30	800 mm (2'-7 1/2")	53
L	4	300 mm (12")*	6	1.3 m (4'-4")	17
M	4	–	4	500 mm (1'-8") AVG	4
TOTAL STEEL, LB.					413
TOTAL CONCRETE, C.Y.					4.06

* EXCEPT AS SHOWN ON PLAN

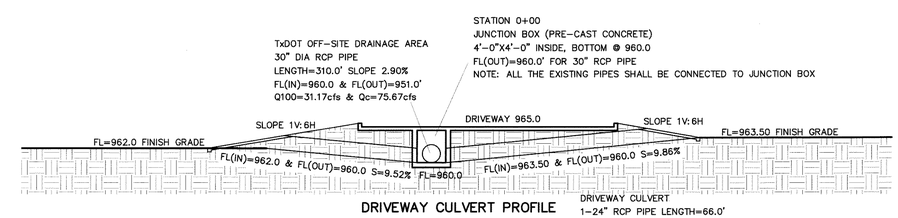


CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	TYPICAL DETAILS FOR CURB INLET	
RECORD COPY SIGNED BY: BILL GARDNER	12/09/08 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.
		STANDARD NO. 508S-3 3 OF 4

NOTES:
1. ALL CONCRETE SHALL BE CLASS "A".
2. ALL REINFORCING STEEL SHALL BE GRADE 60
3. DIMENSIONS RELATING TO REINFORCING STEEL ARE TO CENTERS OF BARS.
4. VERTICAL STEEL MAY BE SPLICED (360 mm or 15 bar DIA*) IN THE LOWER CURB. SPLICES SHALL BE WIRED TIED. ALL OF CLEARANCE BETWEEN REINFORCING STEEL, PIPES AND MANHOLE FRAME, THE REINFORCEMENT SHALL BE BENT OR ADJUSTED TO CLEAR AS DIRECTED BY THE ENGINEER.
6. QUANTITIES SHOWN HEREON ARE FOR THE CONTRACTOR'S INFORMATION ONLY. PAYMENT WILL BE MADE FOR EACH INLET OF THE TYPE SPECIFIED, COMPLETE IN PLACE INCLUDING MANHOLE FRAME AND COVER.
7. CHAMFER ALL EXPOSED EDGES 20 mm (3/4").
8. MANHOLE FRAME AND COVER SHALL BE IN ACCORDANCE WITH CITY OF AUSTIN STANDARD 5035-1.
9. THE CONTRACTOR MAY PROPOSE ALTERNATE PROCEDURES FOR THE CONSTRUCTION OF INLETS, INCLUDING PRECAST UNITS. PLANS FOR SUCH PROPOSED ALTERNATIONS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL BEFORE CONSTRUCTION.
10. ALL INLET WALLS SHALL BE FORMED EXCEPT WHERE THE NATURE OF THE SURROUNDING MATERIAL IS SUCH THAT IT CAN BE TRIMMED TO A SMOOTH VERTICAL FACE. WHEN INLET WALLS ARE PLACED TO NEAT EXCAVATION LINES THE WALL THICKNESS SHALL NOT EXCEED 10 INCHES.
11. PAYMENT FOR INLET AT THE CONTRACT PRICE SHALL INCLUDE THE TRANSITION CURB.
12. INVERT OF INLET SHALL BE SLOPED 1:20 WITH FILL CONCRETE, SHAPED AS "V" SECTION
13. NO SPLICING OF REINFORCING STEEL SHALL BE PERMITTED UNLESS OTHERWISE NOTED ON THE PLANS OR PERMITTED IN WRITING BY THE ENGINEER.

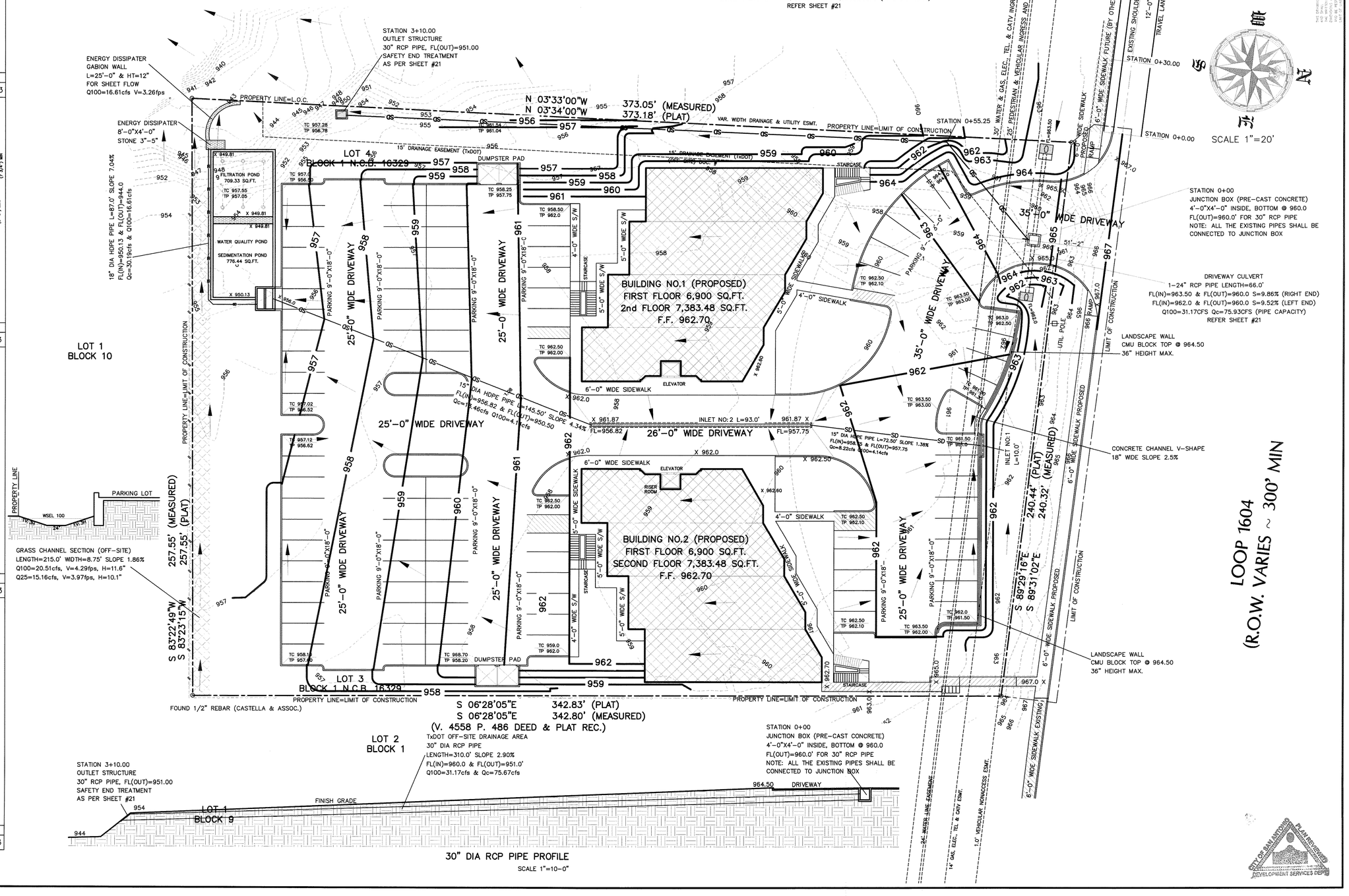
REFERENCES:
FOR EXPANSION JOINT DOWEL AND DOWEL LOCATION DETAILS SEE STD. 4305–1, "CURB EXPANSION JOINT DOWEL DETAIL".
FOR 18" MANHOLE FRAME AND COVER DETAILS SEE STD. 5035–1, "18" COVER AND FRAME".

CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	TYPICAL DETAILS FOR CURB INLET	
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		STANDARD NO. 508S-3 4 OF 4



DRIVEWAY CULVERT PROFILE
SCALE 1"=10–0"

DRIVEWAY CULVERT
1–24" RCP PIPE LENGTH=66.0'
Q100=31.17CFS Qc=75.93CFS (PIPE CAPACITY)
REFER SHEET #21



THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY MIRZA TAHIR BAIG, P.E., #82577 ON 06/29/2013
FIRM REGISTRATION F-4951

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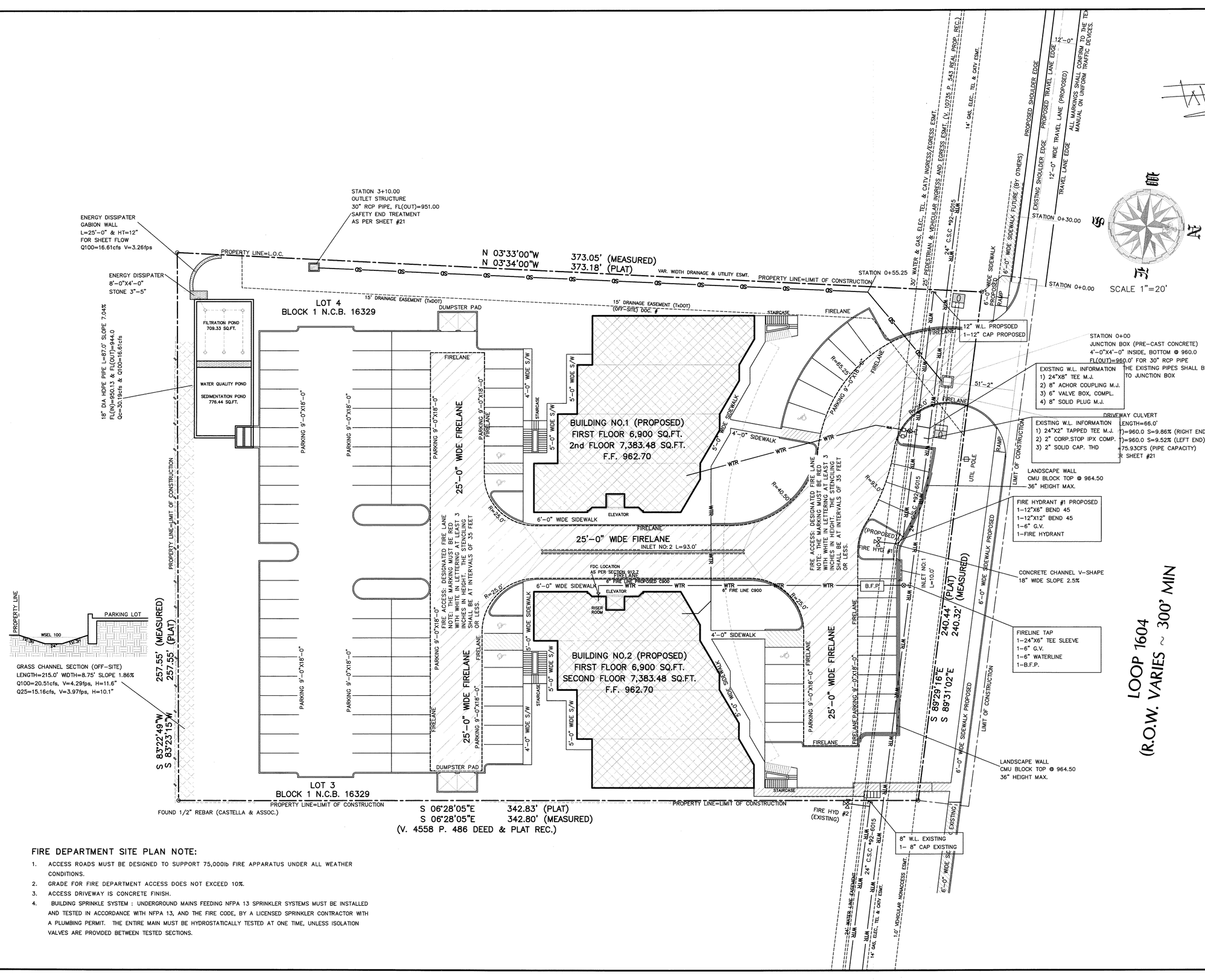
Project : NORTH LOOP RETAIL CENTER
226 & 238 TEXAS LOOP 1604
SAN ANTONIO, TEXAS 78232

Title : GRADING & DRAINAGE SITE PLAN

PROJECT 28001

SHEET 6 OF 26

CITY OF SAN ANTONIO PLAN REVIEWED DEVELOPMENT SERVICES DEPT.



FIRE DEPARTMENT SITE PLAN NOTE:

1. ACCESS ROADS MUST BE DESIGNED TO SUPPORT 75,000lb FIRE APPARATUS UNDER ALL WEATHER CONDITIONS.
2. GRADE FOR FIRE DEPARTMENT ACCESS DOES NOT EXCEED 10%.
3. ACCESS DRIVEWAY IS CONCRETE FINISH.
4. BUILDING SPRINKLE SYSTEM : UNDERGROUND MAINS FEEDING NFPA 13 SPRINKLER SYSTEMS MUST BE INSTALLED AND TESTED IN ACCORDANCE WITH NFPA 13, AND THE FIRE CODE, BY A LICENSED SPRINKLER CONTRACTOR WITH A PLUMBING PERMIT. THE ENTIRE MAIN MUST BE HYDROSTATICALLY TESTED AT ONE TIME, UNLESS ISOLATION VALVES ARE PROVIDED BETWEEN TESTED SECTIONS.

STATE OF TEXAS
MIRZA TAHIR BAIG
82577
REGISTERED
PROFESSIONAL ENGINEER

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FIRM REGISTRATION F-4951

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1	ISSUED FOR APPROVAL	03/28/13	
0	ISSUED FOR APPROVAL	01/10/13	

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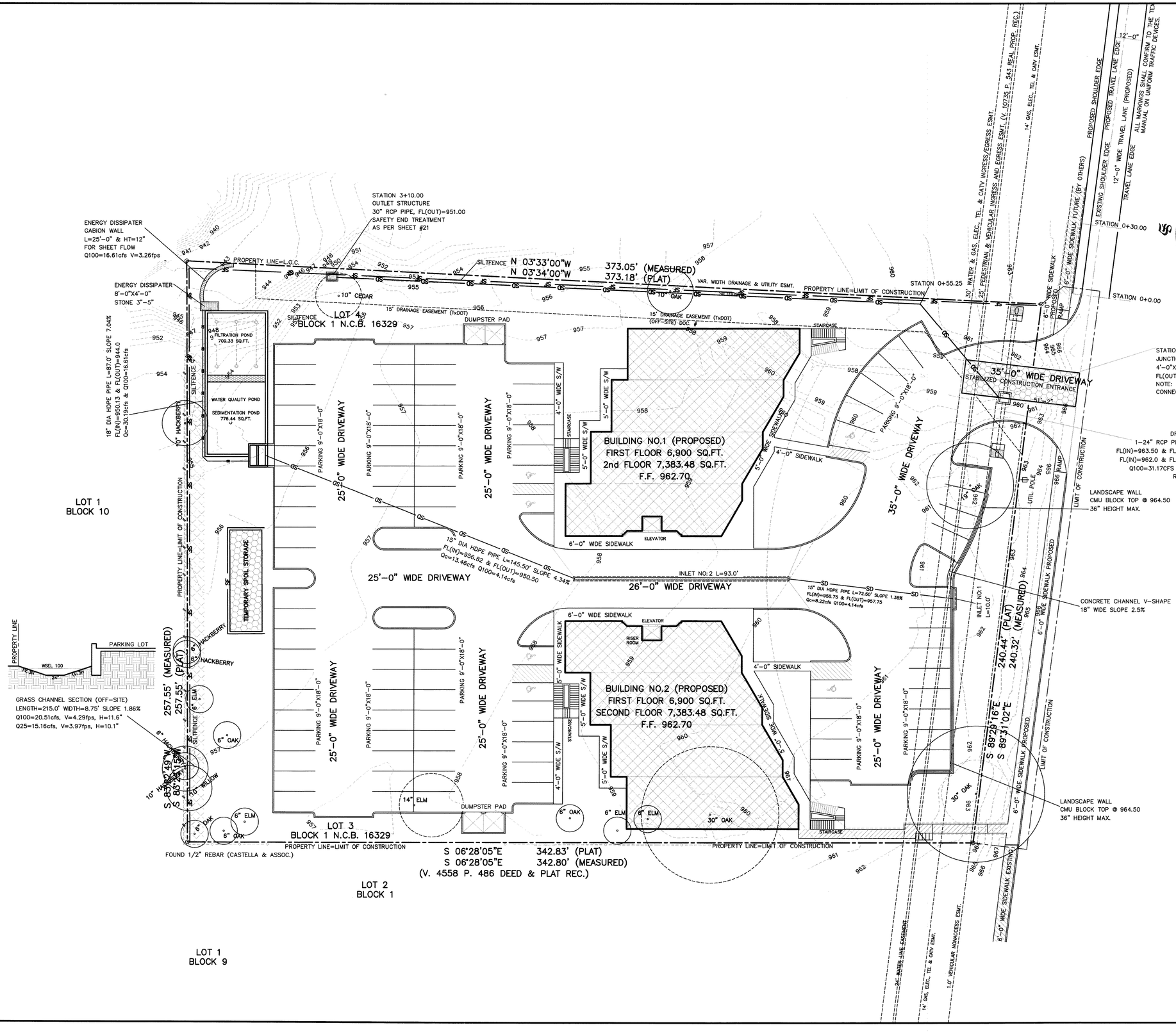
Project:
NORTH LOOP RETAIL CENTER
226 & 238 TEXAS LOOP 1604
SAN ANTONIO, TEXAS 78232

Title:
FIRE PROTECTION SITE PLAN

PROJECT 28001

SHEET 7 OF 26

CITY OF SAN ANTONIO
PLAN REVIEWER
DEVELOPMENT SERVICES DEPT



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STATE OF TEXAS
MIRZA TAHIR BAIG
82577
REGISTERED PROFESSIONAL ENGINEER

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FIRM REGISTRATION F-5951

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1	ISSUED FOR APPROVAL	03/28/13	
0	ISSUED FOR APPROVAL	01/10/13	

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CIVIL AND STRUCTURAL ENGINEERS
CONSULTING
12710 RESEARCH BLVD. SUITE 380, AUSTIN, TX 78759 | TEL: 512.258.6422 | FAX: 512.258.8095

Project:
NORTH LOOP RETAIL CENTER
226 & 238 TEXAS LOOP 1604
SAN ANTONIO, TEXAS 78232

Title:
EROSION/SEDIMENTATION SITE PLAN

PROJECT 28001

SHEET 8 OF 26

CITY OF SAN ANTONIO PLAN REVIEW DEVELOPMENT SERVICES DEPT

MANHOLE EXISTING
M.H. #462397
T 946.03
V 935.05

8" PVC (EXISTING) 05-1673
2.15 @ 0.5%

FLOW

MANHOLE EXISTING
M.H. #462399
T 943.27
V 936.32

STATION 3+10.00
OUTLET STRUCTURE
30" RCP PIPE, FL(OUT)=951.00
SAFETY END TREATMENT
AS PER SHEET #21

ENERGY DISSIPATER
GABION WALL
L=25'-0" & HT=12"
FOR SHEET FLOW
Q100=16.61cfs V=3.26fps

ENERGY DISSIPATER
8'-0"X4'-0"
STONE 3"-5"
M.H. #462399
945.20
939.12

18" DIA HDPE PIPE L=87.0' SLOPE 7.04%
FL(IN)=950.13 & FL(OUT)=944.0
Qc=30.19cfs & Q100=16.61cfs

PROPERTY LINE=L.O.C.

N 03°33'00"W 373.05' (MEASURED)
N 03°34'00"W 373.18' (PLAT)

VAR. WIDTH DRAINAGE & UTILITY ESMT.

PROPERTY LINE=LIMIT OF CONSTRUCTION

STATION 0+55.25

STATION 0+30.00

STATION 0+0.00

SCALE 1"=20'

15' DRAINAGE EASEMENT (TxDOT)

15' DRAINAGE EASEMENT (TxDOT) (OFF-SITE) DOC. #

LOT 4
BLOCK 1 N.C.B. 16329

DUMPSTER PAD

FILTRATION POND
709.33 SQ.FT.

WATER QUALITY POND

SEDIMENTATION POND
776.44 SQ.FT.

BUILDING NO.1 (PROPOSED)
FIRST FLOOR 6,900 SQ.FT.
2nd FLOOR 7,383.48 SQ.FT.
F.F. 962.70

BUILDING NO.2 (PROPOSED)
FIRST FLOOR 6,900 SQ.FT.
SECOND FLOOR 7,383.48 SQ.FT.
F.F. 962.70

25'-0" WIDE DRIVEWAY

PARKING 9'-0"X18'-0"

5'-0" WIDE S/W

4'-0" WIDE S/W

STAIRCASE

ELEVATOR

6'-0" WIDE SIDEWALK

4'-0" SIDEWALK

5'-0" WIDE SIDEWALK

C.O.

6" W.W.L.

3" W.L.

6" W.L.

RISER ROOM

8" PVC (EXISTING) 05-1673
2.13' @ 0.5%

LIMIT OF CONSTRUCTION

FLOW

WW

15" DIA HDPE PIPE L=145.50'
FL(IN)=956.82 & FL(OUT)=950.50
Qc=13.46cfs Q100=4.14cfs

INLET NO.2 L=93.0'

6" WASTEWATER LINE PROPOSED
SDR26 SLOPE 1% MIN.

SLOPE 1%

MANHOLE EXISTING
M.H. #462400
T 956.56
V 948.56

SAMPLE WELL
AS PER 1004.2 COSA

LOT 1
BLOCK 9

WASTEWATER SERVICE TAP
CONNECT TO EXISTING STUB

PROPERTY LINE

PARKING LOT

WSEL 100

GRASS CHANNEL SECTION (OFF-SITE)
LENGTH=215.0' WIDTH=8.75' SLOPE 1.86%
Q100=20.51cfs, V=4.29fps, H=11.6"
Q25=15.16cfs, V=3.97fps, H=10.1"

S 83°22'49"W 257.55' (MEASURED)
S 83°23'15"W 257.55' (PLAT)

PROPERTY LINE=LIMIT OF CONSTRUCTION

FOUND 1/2" REBAR (CASTELLA & ASSOC.)

S 06°28'05"E 342.83' (PLAT)
S 06°28'05"E 342.80' (MEASURED)
(V. 4558 P. 486 DEED & PLAT REC.)

LOT 3
BLOCK 1 N.C.B. 16329

LOT 2
BLOCK 1

24' C.S.C. #92-6015

30'-0" WIDE DRIVEWAY

35'-0" WIDE DRIVEWAY

6'-0" WIDE SIDEWALK PROPOSED

PROPOSED SHOULDER EDGE

EXISTING SHOULDER EDGE

PROPOSED TRAVEL LANE EDGE

12'-0" WIDE TRAVEL LANE (PROPOSED)

TRAVEL LANE EDGE

ALL MARKINGS SHALL CONFIRM TO THE MANUAL ON UNIFORM TRAFFIC DEVICES

14' GAS, ELEC., TEL & CATV ESMT.

24' C.S.C. #92-6015

25' PEDESTRIAN & VEHICULAR INGRESS/EGRESS ESMT.

30' WATER & GAS, ELEC., TEL & CATV INGRESS/EGRESS ESMT. (V. 10735 P. 543 REAL PROP. REC.)

EXISTING WATERLINE (VERIFY ON SITE)

8'-0" WIDE SIDEWALK FUTURE (BY OTHERS)

6'-0" WIDE SIDEWALK PROPOSED RAMP

12" W.L. PROPSOED
1-12" CAP PROPOSED

STATION 0+00
JUNCTION BOX (PRE-CAST CONCRETE)
4'-0"X4'-0" INSIDE, BOTTOM @ 960.0
FL(OUT)=960.0' FOR 30" RCP PIPE
THE EXISTING PIPES SHALL BE
TO JUNCTION BOX

EXISTING W.L. INFORMATION
1) 24"X8" TEE M.J.
2) 8" ACHOR COUPLING M.J.
3) 6" VALVE BOX, COMPL.
4) 8" SOLID PLUG M.J.

DRIVEWAY CULVERT
ENGTH=66.0'
)=960.0 S=9.86% (RIGHT END)
)=960.0 S=9.52% (LEFT END)
=75.93CFS (PIPE CAPACITY)
R SHEET #21

EXISTING W.L. INFORMATION
1) 24"X2" TAPPED TEE M.J.
2) 2" CORP.STOP IPX COMP.
3) 2" SOLID CAP. THD

WATER SERVICE TAP
1) 1"X2" SERVICE TAP
2) 2" W.M. DOMESTIC
3) 4" WATERLINE
4) 1" IRRIGATION METER
W/BACKFLOW PREVENTOR

WATER TAP
1) 12"X4" TEE EXISTING
2) 4" G.V. EXISTING

4" WATERLINE PROPOSED
PVC SCH. 40

PROPOSED W.L.
1) 12" W.L. D.I. L=120'
2) 1-12X12 TEE

FIRE HYD #1 (PROPOSED)

FIRE HYDRANT #1 PROPOSED
1-12"X6" BEND 45
1-12"X12" BEND 45
1-6" G.V.
1-FIRE HYDRANT

CONCRETE CHANNEL V-SHAPE
18" WIDE SLOPE 2.5%

INLET NO.1
L=10.0'

B.F.P.

FIRELINE TAP
1-24"X6" TEE SLEEVE
1-6" G.V.
1-6" WATERLINE
1-B.F.P.

S 89°29'16"E 240.44' (PLAT)
S 89°31'02"E 240.32' (MEASURED)

LANDSCAPE WALL
CMU BLOCK TOP @ 964.50
36" HEIGHT MAX.

LANDSCAPE WALL
CMU BLOCK TOP @ 964.50
36" HEIGHT MAX.

FIRE HYD #2 (EXISTING)

8" W.L. EXISTING
1- 8" CAP EXISTING

EXISTING WATERLINE
1) 8" W.L. D.I. (BEXAR)

24" WATER LINE EASEMENT

EXISTING WATERLINE (VERIFY ON SITE)

14' GAS, ELEC., TEL & CATV ESMT.

1.0' VEHICULAR NONACCESS ESMT.

6'-0" WIDE SIDEWALK EXISTING

LOOP 1604
(R.O.W. VARIES ~ 300' MIN

STATE OF TEXAS
MIRZA TAHIR BAIG
82577
REGISTERED
PROFESSIONAL ENGINEER

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY MIRZA TAHIR BAIG, P.E., #82577 ON 06/29/2013

FIRM REGISTRATION F-4951

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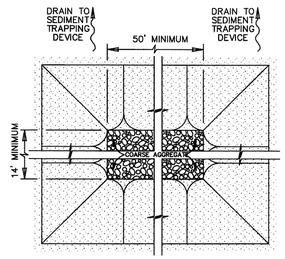
Project :
NORTH LOOP RETAIL CENTER
226 & 238 TEXAS LOOP 1604
SAN ANTONIO, TEXAS 78232

Title :
UTILITY SITE PLAN

PROJECT
28001

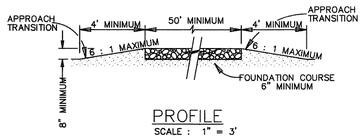
SHEET
9
OF 26

CITY OF SAN ANTONIO
DEVELOPMENT SERVICES DEPT



PLAN

SCALE : 1" = 3'



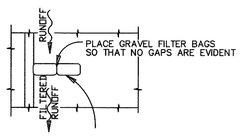
PROFILE

SCALE : 1" = 3'

GENERAL NOTES

1. THE LENGTH OF THE TYPE 1 CONSTRUCTION EXIT SHALL BE AS INDICATED ON THE PLANS, BUT NOT LESS THAN 50'.
2. THE COARSE AGGREGATE SHOULD BE OPEN GRADED WITH A SIZE OF 4" TO 8".
3. THE APPROACH TRANSITIONS SHOULD BE NO STEEPER THAN 6 : 1 AND CONSTRUCTED AS DIRECTED BY THE ENGINEER.
4. THE CONSTRUCTION EXIT FOUNDATION COURSE SHALL BE FLEXIBLE BASE, BITUMINOUS CONCRETE, PORTLAND CEMENT CONCRETE OR OTHER MATERIAL AS APPROVED BY THE ENGINEER.
5. THE CONSTRUCTION EXIT SHALL BE GRADED TO ALLOW DRAINAGE TO A SEDIMENT TRAPPING DEVICE.
6. THE GUIDELINES SHOWN HEREON ARE SUGGESTIONS ONLY AND MAY BE MODIFIED BY THE ENGINEER.

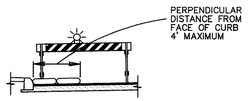
CONSTRUCTION EXIT – TYPE 1



3 / 4" GRAVEL CONTAINED IN PERVIOUS BURLAP BAGS OR SYNTHETIC NET BAGS. (1 / 8" MESH) APPROX. 24" LONG, 12" WIDE AND 6" HIGH

PLAN

SCALE : 1" = 5'

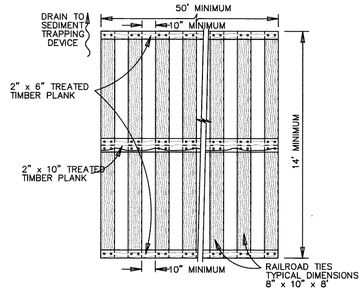


ELEVATION

SCALE : 1" = 5'

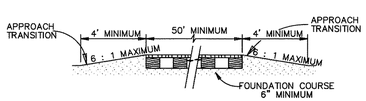
NOTE:
STRADDLE GRAVEL FILTER BAGS WITH TYPE 1 BARRICADES MOUNTED WITH TYPE "A" FLASHING WARNING LIGHT. SEE BARRICADE CONSTRUCTION SIGN DETAILS. PLACE FLASHING LIGHTS AWAY FROM GUTTER, FLUSH WITH OUTSIDE EDGE OF BAG CONFIGURATION.

GRAVEL FILTER BAGS



PLAN

SCALE : 1" = 3'



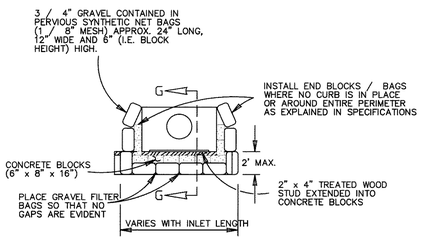
PROFILE

SCALE : 1" = 3'

GENERAL NOTES

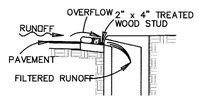
1. THE LENGTH OF THE TYPE 2 CONSTRUCTION EXIT SHALL BE AS INDICATED ON THE PLANS, BUT NOT LESS THAN 50'.
2. THE TREATED TIMBER PLANKS SHALL BE ATTACHED TO THE RAILROAD TIES WITH 1 / 2" x 6" MIN. LAG BOLTS. OTHER FASTENERS MAY BE USED AS APPROVED BY THE ENGINEER.
3. THE TREATED TIMBER PLANKS SHALL BE #2 GRADE MIN., AND SHOULD BE FREE FROM LARGE AND LOOSE KNOTS.
4. THE APPROACH TRANSITIONS SHOULD BE NO STEEPER THAN 6 : 1 AND CONSTRUCTED AS DIRECTED BY THE ENGINEER.
5. THE CONSTRUCTION EXIT FOUNDATION COURSE SHALL BE FLEXIBLE BASE, BITUMINOUS CONCRETE, PORTLAND CEMENT CONCRETE OR OTHER MATERIAL AS APPROVED BY THE ENGINEER.
6. THE CONSTRUCTION EXIT SHOULD BE GRADED TO ALLOW DRAINAGE TO A SEDIMENT TRAPPING DEVICE.
7. THE GUIDELINES SHOWN HEREON ARE SUGGESTIONS ONLY AND MAY BE MODIFIED BY THE ENGINEER.

CONSTRUCTION EXIT – TYPE 2



PLAN

SCALE : 1" = 5'

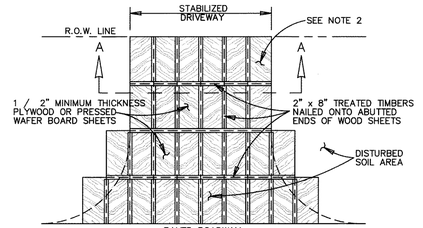


SECTION G–G

SCALE : 1" = 5'

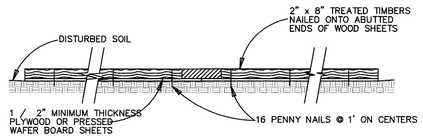
NOTE:
GRAVEL FILTERS CAN BE USED ON PAVEMENT OR BARE GROUND.

CURB INLET GRAVEL FILTER



PLAN

SCALE : 1" = 10'



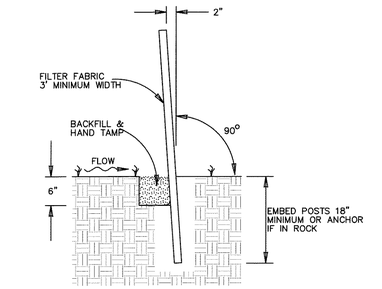
SECTION A–A

SCALE : 1" = 1'

GENERAL NOTES

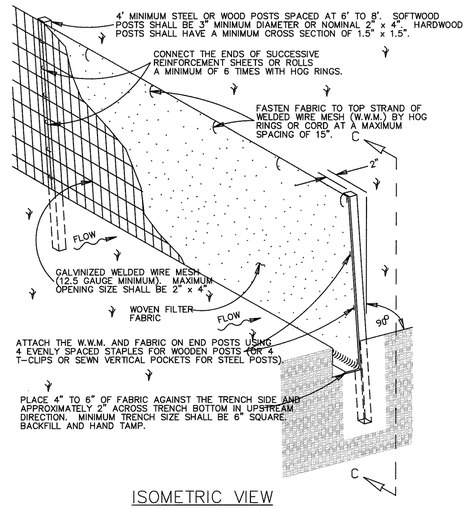
1. THE LENGTH OF THE TYPE 3 CONSTRUCTION EXIT SHALL BE AS INDICATED ON THE PLANS, OR AS DIRECTED BY THE ENGINEER.
2. THE TYPE 3 CONSTRUCTION EXIT MAY BE CONSTRUCTED FROM OPEN GRADED CRUSHED STONE WITH A SIZE OF 2 TO 4 INCHES SPREAD A MINIMUM OF 4 INCHES THICK TO THE LIMITS SHOWN ON THE PLANS.
3. THE TREATED TIMBER PLANKS SHALL BE #2 GRADE MIN., AND SHOULD BE FREE FROM LARGE AND LOOSE KNOTS.
4. THE GUIDELINES SHOWN HEREON ARE SUGGESTIONS ONLY AND MAY BE MODIFIED BY THE ENGINEER.

CONSTRUCTION EXIT – TYPE 3



SECTION C–C

SCALE : 1" = 1'



ISOMETRIC VIEW

SCALE : 1" = 1'

SEDIMENT CONTROL FENCE USAGE GUIDELINES

A SEDIMENT CONTROL FENCE MAY BE CONSTRUCTED NEAR THE DOWNSTREAM PERIMETER OF A DISTURBED AREA ALONG A CONTOUR TO INTERCEPT SEDIMENT FROM OVERLAND RUN-OFF. A 2 YEAR STORM FREQUENCY MAY BE USED TO CALCULATE THE FLOW RATE TO BE FILTERED.

SEDIMENT CONTROL FENCE SHOULD BE SIZED TO FILTER A MAXIMUM FLOW THRU RATE OF 100 GPM / FT SQUARED. SEDIMENT CONTROL FENCE IS NOT RECOMMENDED TO CONTROL EROSION FROM A DRAINAGE AREA LARGER THAN 2 ACRES.

GENERAL NOTES

1. THE GUIDELINES SHOWN HEREON ARE SUGGESTIONS ONLY AND MAY BE MODIFIED BY THE ENGINEER.

TEMPORARY SEDIMENT CONTROL FENCE

JANUARY 2005

STANDARD PLANS
CITY OF SAN ANTONIO, TEXAS
DEPARTMENT OF PUBLIC WORKS

TEMPORARY EROSION, SEDIMENT & WATER POLLUTION CONTROL MEASURES STANDARDS 1

DRAWN BY: V. VASQUEZ	DATE	REVISIONS	SCALE: SEE ABOVE
CHECKED BY: NAT HARDY, P.E.			DATE:
			SHEET: OF

CITY OF SAN ANTONIO PLAN REVIEWED DEVELOPMENT SERVICES DEPT

STATE OF TEXAS
MIRZA TAHIR BAIG
82577
REGISTERED PROFESSIONAL ENGINEER

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY MIRZA TAHIR BAIG, P.E., #82577 ON 06/29/2013

FIRM REGISTRATION F-4951

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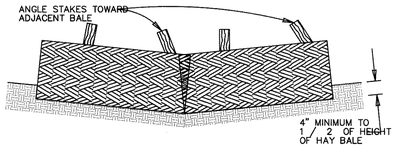
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Project :
NORTH LOOP RETAIL CENTER
226 & 238 TEXAS LOOP 1604
SAN ANTONIO, TEXAS 78232

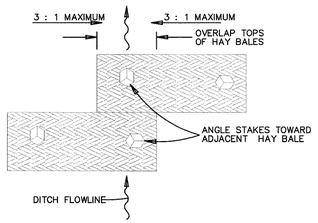
Title :
GENERAL DETAILS

PROJECT
28001

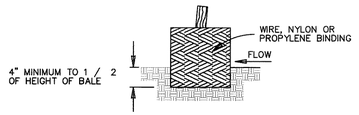
SHEET
10
OF 26



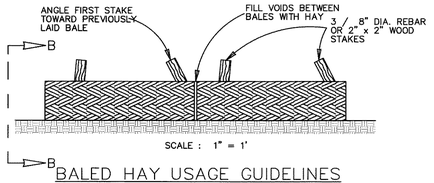
PROFILE VIEW
SCALE : 1" = 1'



PLAN VIEW
SCALE : 1" = 1'



SECTION B–B
SCALE : 1" = 1'



SCALE : 1" = 1'

BALED HAY USAGE GUIDELINES

A BAILED HAY INSTALLATION MAY BE CONSTRUCTED NEAR THE DOWNSTREAM PERIMETER OF A DISTURBED AREA ALONG A CONTOUR TO INTERCEPT SEDIMENT FROM OVERLAND RUNOFF. A TWO YEAR STORM FREQUENCY MAY BE USED TO CALCULATE THE FLOW RATE TO BE FILTERED. THE INSTALLATION SHOULD BE SIZED TO FILTER A MAXIMUM FLOW THRU RATE OF 5 GPM / FT SQUARED OF CROSS SECTIONAL AREA. BALED HAY MAY BE USED AT THE FOLLOWING LOCATIONS:

1. WHERE THE RUNOFF APPROACHING THE BALED HAY FLOWS OVER DISTURBED SOIL FOR LESS THAN 100'. IF THE SLOPE OF THE DISTURBED SOIL EXCEEDS 10 %, THE LENGTH OF SLOPE UPSTREAM OF THE BAILED HAY SHOULD BE LESS THAN 50'.
2. WHERE THE INSTALLATION WILL BE REQUIRED FOR LESS THAN 3 MONTHS.
3. WHERE THE CONTRIBUTING DRAINAGE AREA IS LESS THAN 1 / 2 ACRE.

FOR BALED HAY INSTALLATIONS IN SMALL DITCHES, THE FOLLOWING ADDITIONAL CONDITIONAL CONSIDERATIONS APPLY:

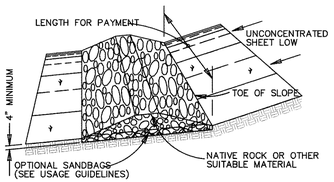
1. THE DITCH SIDESLOPES SHOULD BE GRADED AS FLAT AS POSSIBLE TO MAXIMIZE THE DRAINAGE FLOW RATE THRU THE HAY.
2. THE DITCH SHOULD BE GRADED LARGE ENOUGH TO CONTAIN THE OVERLAPPING DRAINAGE WHEN SEDIMENT HAS FILLED TO THE TOP OF THE BAILED HAY.

BALES SHOULD BE REPLACED USUALLY EVERY 2 MONTHS OR MORE OFTEN DURING WET WEATHER WHEN LOSS OF STRUCTURAL INTERGRITY IS ACCELERATED.

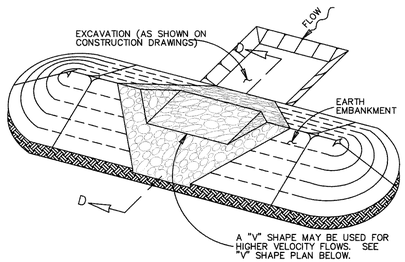
GENERAL NOTES

1. HAY BALES SHALL BE A MINIMUM OF 30" IN LENGTH AND WEIGH A MINIMUM OF 50 LBS.
2. HAY BALES SHALL BE BOUND BY EITHER WIRE OR NYLON OR POLYPROPYLENE STRING. THE BALES SHALL BE COMPOSED ENTIRELY OF VEGETABLE MATTER.
3. HAY BALES SHALL BE EMBEDDED IN THE SOIL A MINIMUM OF 4" AND, WHERE POSSIBLE, ONE–HALF THE HEIGHT OF THE BALE.
4. HAY BALES SHALL BE PLACED IN A ROW WITH ENDS TIGHTLY ABUTTING THE ADJACENT BALES. THE BALES SHALL BE PLACED WITH BINDINGS PARALLEL TO THE GROUND.
5. HAY BALES SHALL BE SECURELY ANCHORED IN PLACE WITH 3 / 8" DIA. REBAR OR 2" x 2" WOOD STAKES DRIVEN THROUGH THE BALES. THE FIRST STAKE SHALL BE ANGLED TOWARDS THE PREVIOUSLY LAID BALE TO FORCE THE BALES TOGETHER.
6. THE GUIDELINES SHOWN HEREON ARE SUGGESTIONS ONLY AND MAY BE MODIFIED BY THE ENGINEER.

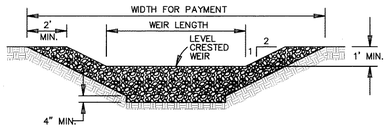
BALED HAY FOR EROSION CONTROL



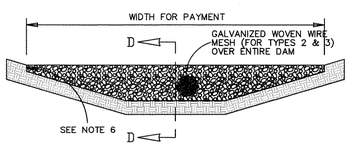
TYPE 1 FILTER DAM AT TOE OF SLOPE
SCALE : 1" = 5'



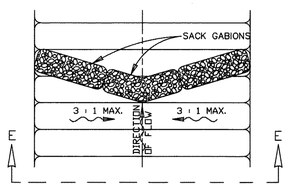
TYPE 1 & 2 FILTER DAM AT SEDIMENT TRAP
SCALE : 1" = 5'



PROFILE OF TYPE 1 & 2 FILTER DAM AT SEDIMENT TRAP
SCALE : 1" = 3'

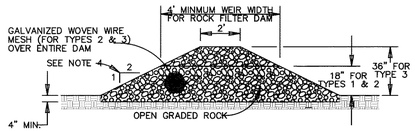


TYPE 1, 2 & 3 FILTER DAM AT CHANNEL SECTIONS
SCALE : 1" = 3'

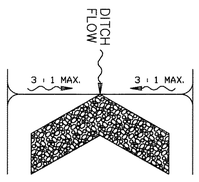


PLAN VIEW
SCALE : 1" = 5'

TYPE 4 FILTER DAM AT DITCHES & SMALLER CHANNELS PLAN VIEW



SECTION D–D
SCALE : 1" = 3'

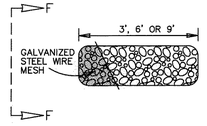


"V" SHAPE PLAN VIEW
NOT TO SCALE



SECTION E–E
SCALE : 1" = 5'

ROCK FILTER DAMS



TYPE 4 SACK GABION DETAIL
SCALE : 1" = 3'



SECTION F–F
SCALE : 1" = 3'

ROCK FILTER DAM USAGE GUIDELINES

ROCK FILTER DAMS SHOULD BE CONSTRUCTED DOWNSTREAM FROM DISTURBED AREAS TO INTERCEPT SEDIMENT FROM OVERLOAD RUNOFF AND / OR CONCENTRATED FLOW. THE DAMS SHOULD BE SIZED TO FILTER A MAXIMUM FLOW THRU RATE OF 60 GPM / FT SQUARED 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 (APPROXIMATELY 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 AS 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.

GENERAL NOTES

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 STORM WATER POLLUTION PREVENTION PLANS.
4. 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 THE 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 AND 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.

JANUARY 2005

STANDARD PLANS
CITY OF SAN ANTONIO, TEXAS
DEPARTMENT OF PUBLIC WORKS

TEMPORARY EROSION, SEDIMENT & WATER POLLUTION CONTROL MEASURES STANDARDS 2

DRAWN BY: V. VASQUEZ	DATE	REVISIONS
CHECKED BY: NAT HARDY, P.E.		

SCALE: SEE ABOVE
DATE:
SHEET: OF

CITY OF SAN ANTONIO PLAN REVIEW DEVELOPMENT SERVICES DEPT

STATE OF TEXAS
MIRZA TAHIR BAIG
82577
REGISTERED PROFESSIONAL ENGINEER

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY MIRZA TAHIR BAIG, P.E., #82577 ON 06/29/2013

FIRM REGISTRATION F-4951

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No.	Revision	Date	Drawn
6	ISSUED FOR APPROVAL	06/29/13	
5	ISSUED FOR APPROVAL	05/22/13	
4	ISSUED FOR APPROVAL	05/10/13	
3	ISSUED FOR APPROVAL	05/07/13	
2	ISSUED FOR APPROVAL	04/26/13	
1	ISSUED FOR APPROVAL	03/28/13	
0	ISSUED FOR APPROVAL	01/30/13	

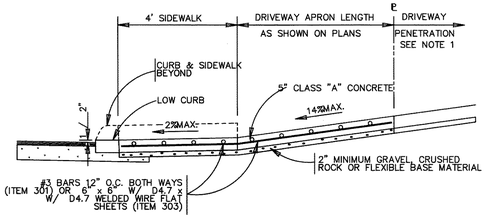
PROFESSIONAL STRUCIVIL ENGINEERS, INC.
CONSULTING CIVIL AND STRUCTURAL ENGINEERS
12710 RESEARCH BLVD. SUITE 380, AUSTIN, TX 78759 | TEL 512.238.6422 | FAX 512.258.8095

Project : NORTH LOOP RETAIL CENTER
226 & 238 TEXAS LOOP 1604
SAN ANTONIO, TEXAS 78232

Title : GENERAL DETAILS

PROJECT 28001

SHEET 11 OF 26

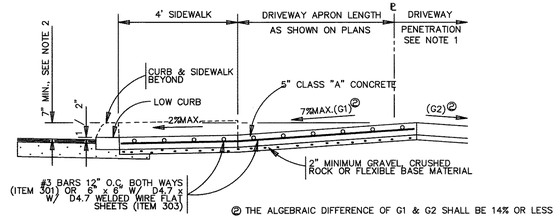


TYPICAL RESIDENTIAL DRIVEWAY SECTION

0 1 2 3 FT.

SCALE 1"=2'

WITH SIDEWALK ABUTTING CURB
ITEM 502-2



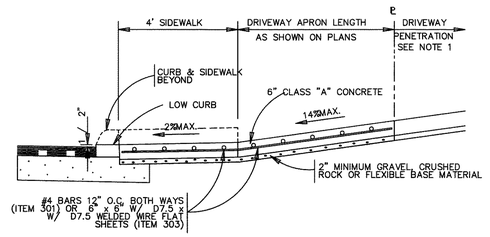
② THE ALGEBRAIC DIFFERENCE OF G1 & G2 SHALL BE 14% OR LESS

TYPICAL RESIDENTIAL DRIVEWAY SECTION

0 1 2 3 FT.

SCALE 1"=2'

WHERE PROPERTY IS LOWER THAN STREET & SIDEWAK IS ABUTTING CURB
ITEM 502-2



TYPICAL COMMERCIAL DRIVEWAY SECTION

0 1 2 3 FT.

SCALE 1"=2'

WITH SIDEWALK ABUTTING CURB
ITEM 502-3

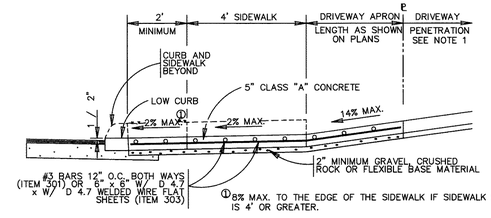
CONCRETE DRIVEWAY NOTES

1. DRIVEWAY PENETRATION REFERS TO A PORTION OF THE DRIVEWAY THAT MAY BE NECESSARY TO RECONSTRUCT WITHIN PRIVATE PROPERTY TO COMPLY WITH A MAXIMUM DRIVEWAY SLOPE. THIS PORTION OF THE DRIVEWAY SHALL BE PAID FOR UNDER THE FOLLOWING ITEMS AS MAY APPLY:
   A.) CONCRETE DRIVEWAY PAID FOR UNDER ITEM NO. 502-2
   B.) ASPHALTIC CONCRETE DRIVEWAY PAID FOR UNDER ITEM NO. 503-1 1" ASPHALT TYPE 'D' & 6" FLEXIBLE BASE
   C.) GRAVEL DRIVEWAY PAID FOR UNDER ITEM NO. 503-2 AND SHALL INCLUDE A MINIMUM OF 6" FLEXIBLE BASE
2. 7" MINIMUM HEIGHT WILL NOT NECESSARILY OCCUR AT THE PROPERTY LINE. IT MAY OCCUR WITHIN THE RIGHT OF WAY OR WITHIN THE DRIVEWAY PENETRATION ON PRIVATE PROPERTY.
3. THE PROPOSED DRIVEWAY SHOULD MATCH THE EXISTING WIDTH AT THE PROPERTY LINE BUT UNLESS AUTHORIZED BY THE CITY TRAFFIC ENGINEER, THE WIDTH SHALL BE WITHIN THE FOLLOWING VALUES:

TYPE	MINIMUM	MAXIMUM
RESIDENTIAL	10'	20'
COMMERCIAL - ONE WAY	12'	20'
COMMERCIAL - TWO WAY	24'	30'

4. FOR LOCAL TYPE "A" STREETS, SIDEWALK SHALL HAVE A MINIMUM WIDTH OF 4' AND IF SEPARATED FROM THE CURB, THE SIDEWALK SHALL BE LOCATED A MINIMUM OF 2' FROM THE BACK OF CURB.
5. FOR OTHER THAN LOCAL TYPE "A" STREETS, THE SIDEWALK SHALL HAVE A MINIMUM WIDTH OF 4' AND SEPARATED A MINIMUM OF 2' FROM THE BACK OF CURB OR, AS AN OPTION, THE SIDEWALK SHALL HAVE A MINIMUM WIDTH OF 5' WHEN LOCATED AT THE BACK OF CURB.
6. DUMMY JOINTS PARALLEL TO THE CURB SHALL BE PLACED WHERE THE SIDEWALK MEETS THE DRIVEWAY. DUMMY JOINTS PERPENDICULAR TO THE CURB, AND WITHIN THE BOUNDARIES OF THE PARALLEL DUMMY JOINTS, SHALL BE PLACED AT INTERVALS EQUAL TO THE WIDTH OF THE SIDEWALK.
7. A MINIMUM OF TWO ROUND AND SMOOTH DOWEL BARS 3 /8" IN DIAMETER AND 18" IN LENGTH SHALL BE SPACED 18" APART AT EACH EXPANSION JOINT.
8. SIDEWALK RAMP LENGTHS SHALL BE OF SUFFICIENT LENGTH TO MAINTAIN 8.33% (1:12) MAXIMUM SLOPE. WHERE SIDEWALKS CROSS DRIVEWAYS, SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.
9. SIDEWALK RAMP SURFACE SHALL BE BRUSH FINISHED.

ITEM 300.1



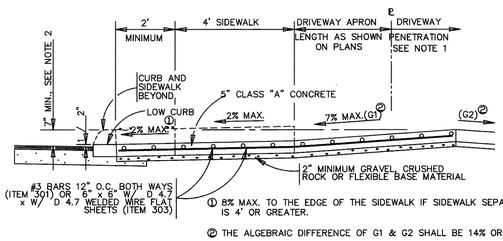
TYPICAL RESIDENTIAL DRIVEWAY SECTION

0 1 2 3 FT.

SCALE 1"=2'

WITH SIDEWALK SEPARATED FROM CURB
ITEM 502-2

① 8% MAX. TO THE EDGE OF THE SIDEWALK IF SIDEWALK SEPARATION IS 4' OR GREATER.



① 8% MAX. TO THE EDGE OF THE SIDEWALK IF SIDEWALK SEPARATION IS 4' OR GREATER.

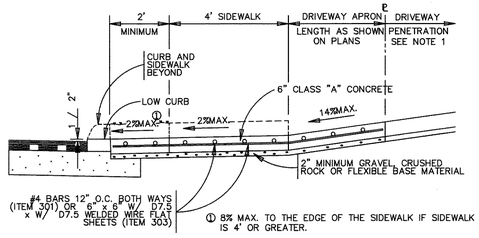
② THE ALGEBRAIC DIFFERENCE OF G1 & G2 SHALL BE 14% OR LESS

TYPICAL RESIDENTIAL DRIVEWAY SECTION

0 1 2 3 FT.

SCALE 1"=2'

WHERE PROPERTY IS LOWER THAN STREET & SIDEWALK IS SEPARATED FROM CURB
ITEM 502-2



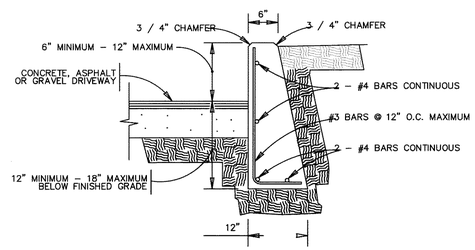
① 8% MAX. TO THE EDGE OF THE SIDEWALK IF SIDEWALK SEPARATION IS 4' OR GREATER.

TYPICAL COMMERCIAL DRIVEWAY SECTION

0 1 2 3 FT.

SCALE 1"=2'

WITH SIDEWALK SEPARATED FROM CURB
ITEM 502-3



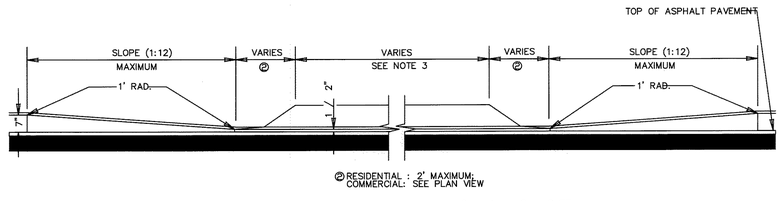
NOTE:
COST OF REINFORCEMENT TO BE INCLUDED IN UNIT COST OF CONCRETE.

DRIVEWAY – CONCRETE RETAINING WALL

0 0.5 1 1.5 FT.

SCALE : 1"=1'

ON COMPACTED SUBGRADE



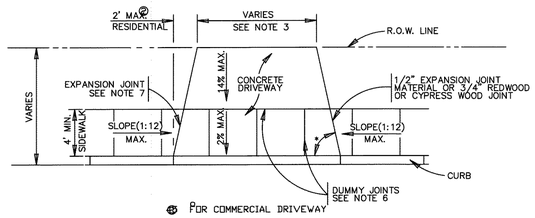
② RESIDENTIAL : 2' MAXIMUM;
COMMERCIAL: SEE PLAN VIEW

CURB PROFILE AT DRIVEWAY

0 1 2 3 FT.

SCALE 1"=2'

WITH SIDEWALK ABUTTING CURB



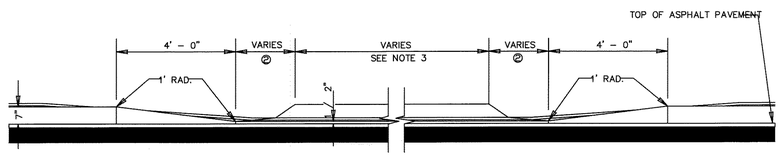
② FOR COMMERCIAL DRIVEWAY

TYPICAL DRIVEWAY PLAN VIEW

0 1 2 3 4 5 FT.

SCALE 1"=5'

WITH SIDEWALK ABUTTING CURB



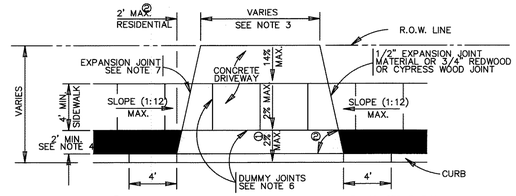
② RESIDENTIAL : 2' MAXIMUM;
COMMERCIAL: SEE PLAN VIEW

CURB PROFILE AT DRIVEWAY

0 1 2 3 FT.

SCALE 1"=2'

WITH SIDEWALK SEPARATED FROM CURB



① 8% MAX. TO THE EDGE OF THE SIDEWALK IF SIDEWALK SEPARATION IS 4' OR GREATER.

② FOR COMMERCIAL DRIVEWAY

TYPICAL DRIVEWAY PLAN VIEW

0 1 2 3 4 5 FT.

SCALE 1"=5'

WITH SIDEWALK SEPARATED FROM CURB

JANUARY 2006

CITY OF SAN ANTONIO, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

CONCRETE DRIVEWAY STANDARDS

DRAWN BY:	DATE	REVISIONS	SCALE:	SEE ABOVE
V. VASQUEZ	MAR 08	DRIVEWAY NOTES NOS. 7 & 8		
CHECKED BY:	JAN 08	2" LIP HEIGHT, DELETE GROOVED RAMP 8% MAX. ACCESS GRADE	DATE:	
RAZI S. HOSSEINI, P.E.			SHEET:	OF

DEVELOPMENT SERVICES DEPT

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STATE OF TEXAS
MIRZA TAHIR BAIG
82577
REGISTERED
PROFESSIONAL ENGINEER

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FIRM REGISTRATION F-4951

Revision	Description	Date	Drawn
6	ISSUED FOR APPROVAL	06/29/13	
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1	ISSUED FOR APPROVAL	03/28/13	
0	ISSUED FOR APPROVAL	01/30/13	

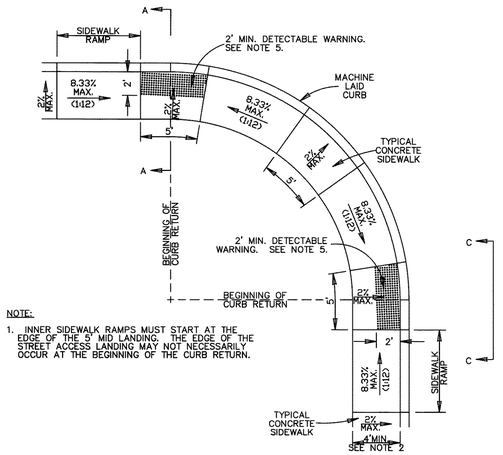
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Project: NORTH LOOP RETAIL CENTER
226 & 238 TEXAS LOOP 1604
SAN ANTONIO, TEXAS 78232

Title: GENERAL DETAILS

PROJECT 28001

SHEET 12 OF 26



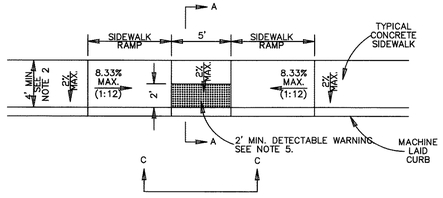
NOTE:

1. INNER SIDEWALK RAMPS MUST START AT THE EDGE OF THE 5' MID LANDING. THE EDGE OF THE STREET ACCESS LANDING MAY NOT NECESSARILY OCCUR AT THE BEGINNING OF THE CURB RETURN.

TYPICAL SIDEWALK RAMP – TYPE I

SIDEWALK ABUTS THE CURB

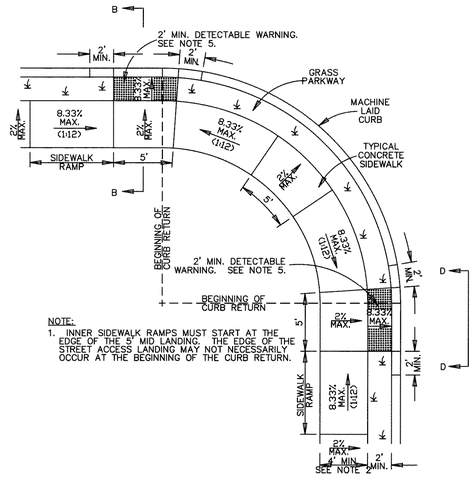
SCALE : 1"=5'



TYPICAL SIDEWALK RAMP – TYPE II

USED AT TEE INTERSECTIONS WHERE SIDEWALK ABUTS CURB

SCALE : 1"=5'



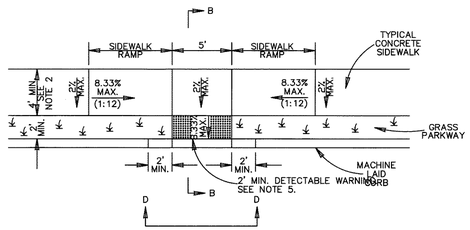
NOTE:

1. INNER SIDEWALK RAMPS MUST START AT THE EDGE OF THE 5' MID LANDING. THE EDGE OF THE STREET ACCESS LANDING MAY NOT NECESSARILY OCCUR AT THE BEGINNING OF THE CURB RETURN.

TYPICAL SIDEWALK RAMP – TYPE III

SIDEWALK SEPARATED FROM CURB

SCALE : 1"=5'



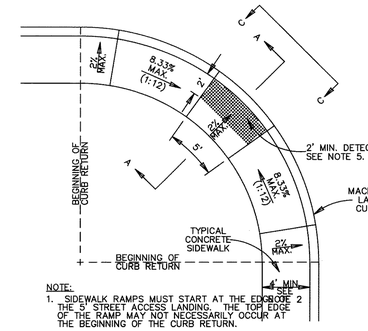
TYPICAL SIDEWALK RAMP – TYPE IV

USED AT TEE INTERSECTIONS WHERE SIDEWALK IS SEPARATED FROM CURB

SCALE : 1"=5'

GENERAL NOTES

1. WHEN POSSIBLE SIDEWALKS SHOULD BE PLACED NEXT TO THE PROPERTY LINE, ALLOWING A MININMUM OF 1 FOOT BUFFER. DEVIATION OF THE PATHWAY FROM A STRAIGHT LINE IS ENCOURAGED TO AVOID TREES OR OTHER OBSTRUCTIONS.
2. FOR LOCAL TYPE "A" STREETS, SIDEWALKS SHALL HAVE A MINIMUM UNOBSTRUCTED WIDTH OF 4' AND IF SEPARATED FROM THE CURB, THE SIDEWALK SHALL BE LOCATED A MINIMUM OF 2' FROM THE BACK OF CURB.
3. FOR OTHER THAN LOCAL TYPE "A" STREETS, SIDEWALKS SHALL HAVE A MINIMUM UNOBSTRUCTED WIDTH OF 4' AND SEPARATED A MINIMUM OF 2' FROM THE BACK OF CURB OR AS AN OPTION, THE SIDEWALK SHALL HAVE A MINIMUM WIDTH OF 6' WHEN LOCATED AT THE BACK OF CURB.
4. SIDEWALK RAMP LENGTHS PRESENTED IN TABLE 1 ARE GUIDELINES ONLY. SIDEWALK RAMP LENGTHS SHALL BE OF SUFFICIENT LENGTH TO MAINTAIN 8.33% (1:12) MAXIMUM SLOPE.
5. ALL CURB-RAMPS OR LANDINGS ABUTTING THE CROSSWALK SHALL HAVE A DETECTABLE WARNING 24 INCHES DEEP (IN THE DIRECTION OF PEDESTRIAN TRAVEL) AND EXTENDING THE FULL WIDTH OF THE CURB RAMP OR LANDING. THE DETECTABLE WARNING SHALL CONSIST OF RAISED TRUNCATED DOMES, ALIGNED IN A GRID PATTERN WITH A DIAMETER OF A NOMINAL 0.9 INCHES (23 MM), A HEIGHT OF NOMINAL 0.2 INCHES (5 MM) AND A CENTER-TO-CENTER SPACING OF NOMINAL 2.35 INCHES (60 MM).
6. DETECTABLE WARNINGS SHALL CONTRAST VISUALLY WITH ADJOINING SURFACES, EITHER LIGHT-ON-DARK, OR DARK-ON-LIGHT. THE MATERIAL USED TO PROVIDE CONTRAST SHALL BE AN INTEGRAL PART OF THE WALKING SURFACE.
7. SIDEWALK RAMP TYPE V SHALL BE USED ONLY WHERE THERE IS SIGNIFICANT RESTRICTION WITHIN THE PARKWAY TO CONSTRUCT TYPE I OR TYPE III RAMPS.
8. CONSTRUCTION OF ALL WHEELCHAIR RAMPS TO BE INCLUDED UNDER ITEMS "500 – CONCRETE CURBING", "501 – MACHINE LAID CURB" AND / OR "502 – CONCRETE SIDEWALKS". RAMP SURFACE SHALL BE BRUSH FINISHED.
9. THESE DETAILS ARE FOR REFERENCE ONLY. ACTUAL LOCATIONS OF WHEELCHAIR RAMPS TO BE SHOWN ON CONSTRUCTION PLANS. CITY CONSTRUCTION INSPECTOR CAN ADJUST LOCATIONS FOR SAFETY OR UTILITY CLEARANCE.
10. SIDEWALKS LESS THAN 5 FEET IN WIDTH SHALL BE PROVIDED WITH A PASSING SPACE AT A MAXIMUM SPACING OF 200 FEET.
11. WHEELCHAIR RAMP SHALL BE CONSTRUCTED WITH 4" CLASS "A" CONCRETE AND 2" GRAVEL, CRUSHED ROCK OR FLEXIBLE BASE MATERIAL.
12. REINFORCING STEEL SHALL BE #3 BARS AT 18" O.C.E.W. OR 6" x 6" – W2.9 x W2.9 WIRE MESH.
13. SIDEWALK GRADES SHALL NOT EXCEED THE GRADE ESTABLISHED FOR THE ADJACENT ROADWAY. ANY SIDEWALK CONSTRUCTION THAT DEVIATES FROM THE NATURAL GRADE OF THE ROADWAY TO CREATE A GRADE STEEPER THAN THE EXISTING ROADWAY WILL REQUIRE RAMPS, HANDRAILS AND RESTING PLATFORMS TO BE CONSTRUCTED IN ACCORDANCE WITH ADA AND TAS STANDARDS.
14. SIDEWALK CROSS GRADE SHALL HAVE A MAXIMUM SLOPE OF 2%. LANDINGS SHALL HAVE A MAXIMUM SLOPE OF 2% IN ANY DIRECTION.
15. THE CHANGE OF GRADE BETWEEN ADJACENT SURFACES SHALL BE LESS THAN 11%. THE CHANGE OF GRADE SHALL BE DEFINED AS THE ALGEBRAIC DIFFERENCE OF THE ADJACENT SURFACE SLOPES. IN THE CASE OF A STREET ACCESS RAMP DESIGNED AT THE 8.33% MAXIMUM SLOPE, THE ADJACENT PAVEMENT CROSS SLOPE SHALL BE LESS THAN 2.67% (I.E. 8.33-(-2.67)=11). IN ADDITION, THE ADJACENT PAVEMENT CROSS SLOPE SHALL BE LESS THAN OR EQUAL TO 5%.
16. IF THE CHANGE OF GRADE BETWEEN ADJACENT SURFACES IS GREATER THAN OR EQUAL TO 11%, A LEVELING STRIP, 2 FEET IN LENGTH, SHALL BE PROVIDED TO TRANSITION THE ADJACENT SURFACES.
17. ADA COMPLIANCE IN ALTERATIONS INCLUDE ONLY THAT WORK WITHIN THE LIMITS, BOUNDARIES OR SCOPE OF A PLANNED PROJECT.



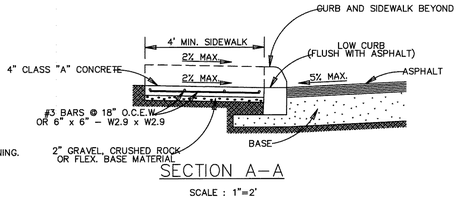
NOTE:

1. SIDEWALK RAMPS MUST START AT THE EDGE OF THE 5' STREET ACCESS LANDING. THE TOP EDGE OF THE RAMP MAY NOT NECESSARILY OCCUR AT THE BEGINNING OF THE CURB RETURN.

TYPICAL SIDEWALK RAMP – TYPE V

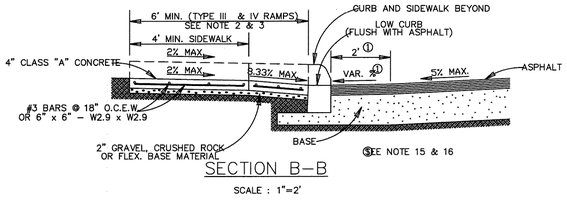
SIDEWALK ABUTS CURB

SCALE : N.T.S.



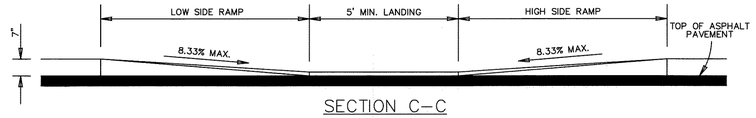
SECTION A–A

SCALE : 1"=2'



SECTION B–B

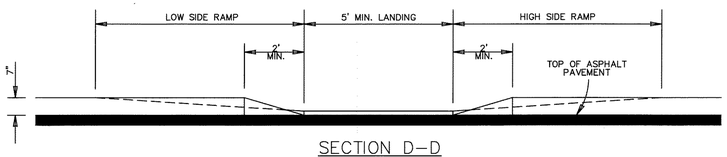
SCALE : 1"=2'



SECTION C–C

CURB PROFILE WHERE SIDEWALK ABUTS CURB

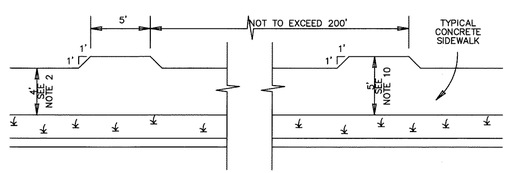
SCALE : 1"=2'



SECTION D–D

CURB PROFILE WHERE SIDEWALK IS SEPARATED FROM CURB

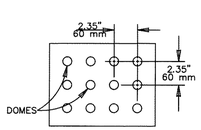
SCALE : 1"=2'



SIDEWALK PASSING SPACE

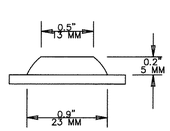
SCALE : 1"=5'

TABLE 1 (SEE NOTE 4)		
GUTTER SLOPE	SIDEWALK RAMP LENGTH (1:12)	
	LOW SIDE	HIGH SIDE
1%	5'-6"	7'-2"
2%	5'-0"	8'-4"
3%	4'-6"	10'-0"
4%	4'-2"	12'-6"
5%	3'-10"	16'-8"



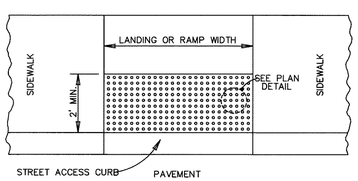
PLAN DETAIL

NO SCALE



DOME SECTION

NO SCALE



DETECTABLE WARNING AREA

SCALE : 1"=2'



THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY MIRZA TAHIR BAIG, P.E., #82577 ON 06/29/2013

FIRM REGISTRATION F-4951

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Revision	Date	Drawn
6	06/29/13	
5	05/22/13	
4	05/10/13	
3	05/07/13	
2	04/26/13	
1	03/28/13	
0	01/30/13	

Description: ISSUED FOR APPROVAL

PROFESSIONAL STRUCIVIL ENGINEERS, INC.
CONSULTING CIVIL AND STRUCTURAL ENGINEERS
12710 RESEARCH BLVD., SUITE 380, AUSTIN, TX 78759 | TEL. 512.238.8422 | FAX. 512.258.8095

Project : NORTH LOOP RETAIL CENTER
226 & 238 TEXAS LOOP 1604
SAN ANTONIO, TEXAS 78232

Title : GENERAL DETAILS

PROJECT 28001

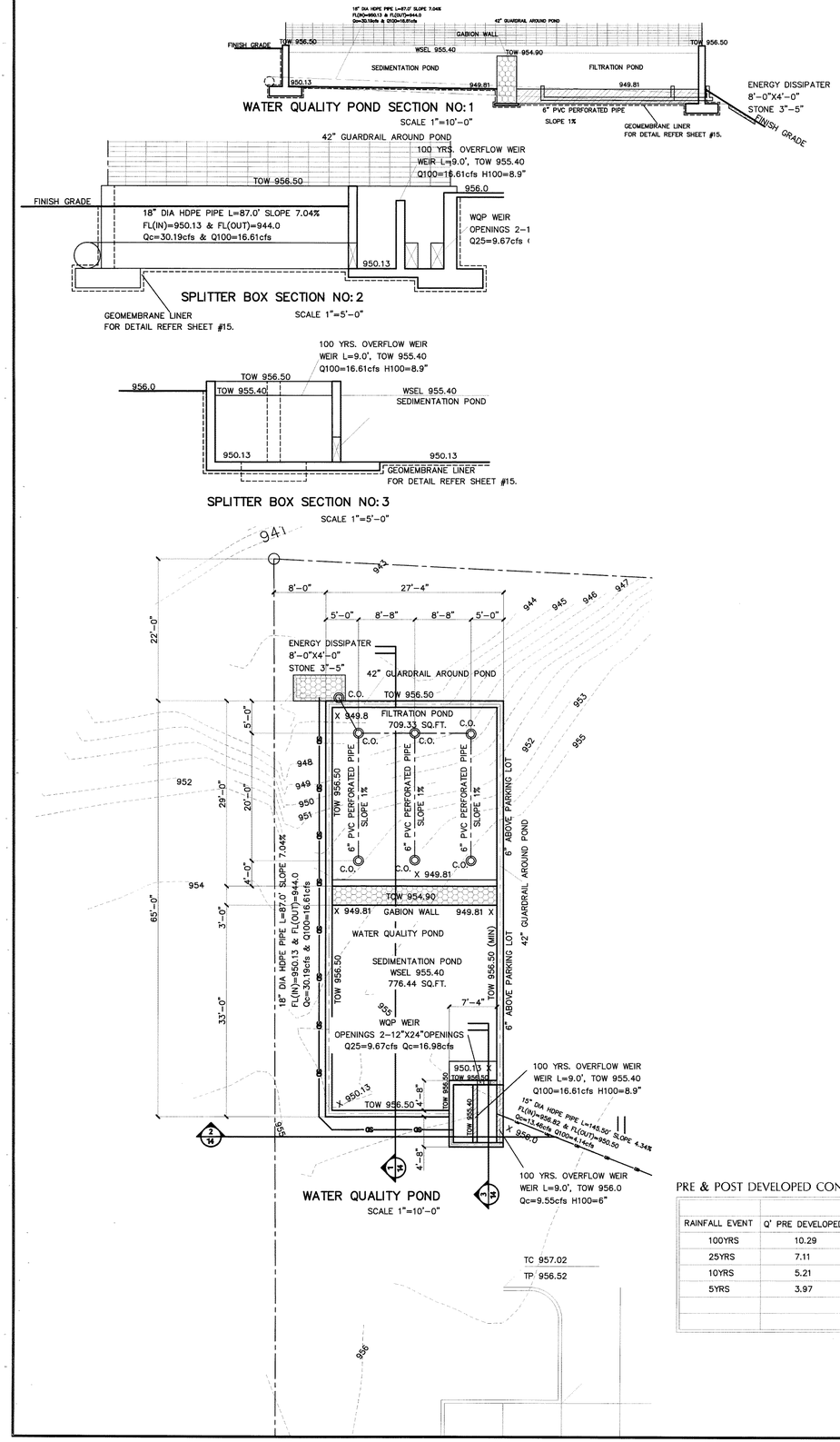
SHEET 13 OF 26

JANUARY 2006

CITY OF SAN ANTONIO, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

WHEELCHAIR RAMP STANDARDS

DRAWN BY:	DATE	REVISIONS	SCALE:	SEE ABOVE
V. VASQUEZ	MAR 05	ADDED GENERAL NOTE NO. 17	DATE:	
CHECKED BY:	JAN 06	REMOVED RAMP GROOVES & ADDED RAISED TRUNCATED DOMES		DEVELOPMENT SERVICES DEPT
RAZI S. HOSSEINI, P.E.			SHEET:	OF



PRE & POST DEVELOPED CONDITIONS SUMMARY

	DISCHARGE / RUN-OFF		
RAINFALL EVENT	Q' PRE DEVELOPED (CFS)	Q' POST DEVELOPED (CFS)	Q' ADDITIONAL (CFS
100YRS	10.29	16.66	6.37
25YRS	7.11	12.28	5.17
10YRS	5.21	9.67	4.46
5YRS	3.97	7.97	4.0

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: BJIAN 1604 RETAIL CENTER
Date Prepared: 6/15/2013

Additional information is provided for cells with a red triangle in the upper right corner. Place the cursor over the cell.
Text shown in blue indicate location of instructions in the Technical Guidance Manual - RG-348.
Characters shown in red are data entry fields.
Characters shown in black (Bold) are calculated fields. Changes to these fields will remove the equations used in the spreadsheet.

1. The Required Load Reduction for the total project: Calculations from RG-348 Pages 3-27 to 3-30

Page 3-29 Equation 3.3: $L_M = 27.2(A_N \times P)$

where: $L_{M\ TOTAL\ PROJECT}$ = Required TSS removal resulting from the proposed development = 80% of increased load
A_N = Net increase in impervious area for the project
P = Average annual precipitation, inches

Site Data: Determine Required Load Removal Based on the Entire Project

County =	Bexar	
Total project area included in plan * =	2.04	acres
Predevelopment impervious area within the limits of the plan * =	0.00	acres
Total post-development impervious area within the limits of the plan* =	1.32	acres
Total post-development impervious cover fraction * =	0.64	
P =	39	inches
$L_{M\ TOTAL\ PROJECT}$ =	1073	lbs.

* The values entered in these fields should be for the total project area.

Number of drainage basins / outfalls areas leaving the plan area = 1

2. Drainage Basin Parameters (This information should be provided for each basin):

Drainage Basin/Outfall Area No. = 1

Total drainage basin/outfall area =	2.04	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	1.32	acres
Post-development impervious fraction within drainage basin/outfall area =	0.64	
$L_{M\ THIS\ BASIN}$ =	1073	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Sand Filter
Removal efficiency = 89 percent

Aquaforgic Cartridge Filter
Bioretention
Contech StormFilter
Constructed Wetland
Extended Detention
Grassy Swale
Retention / Irrigation
Sand Filter
Stormceptor
Vegetated Filter Strips
Vortechs
Wet Basin
Wet Vault

4. Calculate Maximum TSS Load Removed (L_R) for this Drainage Basin by the selected BMP Type.

RG-348 Page 3-33 Equation 3.7: L_R = (BMP efficiency) x P x (A_C x 34.6 + A_P x 0.54)

where: A_C = Total On-Site drainage area in the BMP catchment area
A_I = Impervious area proposed in the BMP catchment area
A_P = Pervious area remaining in the BMP catchment area
L_R = TSS Load removed from this catchment area by the proposed BMP

A_C =	2.04	acres
A_I =	1.32	acres
A_P =	0.73	acres
L_R =	1225	lbs

5. Calculate Fraction of Annual Runoff to Treat the drainage basin / outfall area

Desired $L_{M\ THIS\ BASIN}$ = 1073 lbs.

F = 0.88

6. Calculate Capture Volume required by the BMP Type for this drainage basin / outfall area. Calculations from RG-348 Pages 3-34 to 3-36

Rainfall Depth =	1.50	inches
Post Development Runoff Coefficient =	0.45	
On-site Water Quality Volume =	5054	cubic feet

Calculations from RG-348 Pages 3-36 to 3-37

Off-site area draining to BMP =	0.00	acres
Off-site Impervious cover draining to BMP =	0.00	acres
Impervious fraction of off-site area =	0	
Off-site Runoff Coefficient =	0.00	
Off-site Water Quality Volume =	0	cubic feet
Storage for Sediment =	1011	
Total Capture Volume (required water quality volume(s) x 1.20) =	6065	cubic feet

The following sections are used to calculate the required water quality volume(s) for the selected BMP.
The vaflues for BMP Types not selected in cell C45 will show NA.

7. Retention/Irrigation System Designed as Required in RG-348 Pages 3-42 to 3-46

Required Water Quality Volume for retention basin = NA cubic feet

Irrigation Area Calculations:

Soil infiltration/permeability rate =	0.1	in/hr	Enter determined permeability rate or assumed value of 0.1
Irrigation area =	NA	square feet	
	NA	acres	

8. Extended Detention Basin System Designed as Required in RG-348 Pages 3-46 to 3-51

Required Water Quality Volume for extended detention basin = NA cubic feet

9. Filter area for Sand Filters Designed as Required in RG-348 Pages 3-58 to 3-63

9A. Full Sedimentation and Filtration System

Water Quality Volume for sedimentation basin = 6065 cubic feet

Minimum filter basin area = 281 square feet

Maximum sedimentation basin area = 2527 square feet For minimum water depth of 2 feet
Minimum sedimentation basin area = 632 square feet For maximum water depth of 8 feet

9B. Partial Sedimentation and Filtration System

Water Quality Volume for combined basins = 6065 cubic feet

Minimum filter basin area = 505 square feet

Maximum sedimentation basin area = 2022 square feet For minimum water depth of 2 feet
Minimum sedimentation basin area = 126 square feet For maximum water depth of 8 feet

STATE OF TEXAS
MIRZA TAHIR BAIG
82577
REGISTERED
PROFESSIONAL
ENGINEER

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY MIRZA TAHIR BAIG, P.E. #82577 ON 06/29/2013

TBPE FIRM REGISTRATION F-4951

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PRE DEVELOPED CONDITIONS

Node ID	Type	Return Event	HYG Vol ac--ft	Trun	Qpeak hrs	Qpeak cfs
DA #1	AREA	100	1.257		12.3000	10.29
DA #1	AREA	25	.857		12.3000	7.11
DA #1	AREA	10	.626		12.3000	5.21
DA #1	AREA	5	.476		12.3000	3.97
*OUT	JCT	100	1.257		12.3000	10.29
*OUT	JCT	25	.857		12.3000	7.11
*OUT	JCT	10	.626		12.3000	5.21
*OUT	JCT	5	.476		12.3000	3.97

POST DEVELOPED CONDITIONS

Node ID	Type	Return Event	HYG Vol ac--ft	Trun	Qpeak hrs	Qpeak cfs	Max WSEL ft	Pond Storage ac--ft
DA #A	AREA	100	.693		12.1000	7.42		
DA #A	AREA	25	.507		12.1000	5.51		
DA #A	AREA	10	.396		12.1000	4.37		
DA #A	AREA	5	.322		12.1000	3.60		
DA #B	AREA	100	.104		12.1000	1.23		
DA #B	AREA	25	.071		12.1000	.86		
DA #B	AREA	10	.052		12.1000	.63		
DA #B	AREA	5	.039		12.1000	.49		
DA #C	AREA	100	.380		12.1000	3.90		
DA #C	AREA	25	.283		12.1000	2.92		
DA #C	AREA	10	.224		12.1000	2.34		
DA #C	AREA	5	.185		12.1000	1.94		
DA #D	AREA	100	.381		12.1000	4.14		
DA #D	AREA	25	.276		12.1000	3.06		
DA #D	AREA	10	.214		12.1000	2.41		
DA #D	AREA	5	.172		12.1000	1.97		
*OUT	JCT	100	1.379		12.1000	16.61		
*OUT	JCT	25	.958		12.1000	12.28		
*OUT	JCT	10	.707		12.1000	9.67		
*OUT	JCT	5	.541		12.1000	7.97		
POND 10	IN POND	100	1.454		12.1000	15.46		
POND 10	IN POND	25	1.066		12.1000	11.50		
POND 10	IN POND	10	.834		12.1000	9.11		
POND 10	IN POND	5	.680		12.1000	7.51		
POND 10	OUT POND	100	1.275		12.1000	15.38	956.09	.202
POND 10	OUT POND	25	.887		12.1000	11.43	955.96	.197
POND 10	OUT POND	10	.655		12.1000	9.04	955.88	.195
POND 10	OUT POND	5	.501		12.1000	7.48	955.82	.193

OUTLET STRUCTURE INPUT DATA

Structure ID = R0
Structure Type = Inlet Box

# of Openings	=	1
Invert Elev.	=	955.40 ft
Orifice Area	=	27.0000 sq.ft
Orifice Coeff.	=	.600
Weir Length	=	9.00 ft
Weir Coeff.	=	3.000
K, Reverse	=	1.000
Mannings n	=	.0000
Kev,Charged Riser	=	.000
Weir Submergence	=	No

Structure ID = C0
Structure Type = Culvert-Circular

No. Barrels	=	1
Barrel Diameter	=	18.0000 ft
Upstream Invert	=	950.13 ft
Dnstream Invert	=	945.00 ft
Horiz. Length	=	86.75 ft
Barrel Length	=	86.90 ft
Barrel Slope	=	.05914 ft/ft

OUTLET CONTROL DATA...

Mannings n	=	.0120
Ke	=	.5000 (forward entrance loss)
Kb	=	.000565 (per ft of full flow)
Kr	=	.5000 (reverse entrance loss)
HW Convergence	=	.001 +/- ft

COMPOSITE OUTFLOW SUMMARY

WS Elev, Total Q Elev. ft	Q cfs	TW Elev ft	Error +/-ft	Notes Converge Contributing Structures
949.81	.00	Free	Outfall	(no Q: R0,C0)
950.06	.00	Free	Outfall	(no Q: R0,C0)
950.13	.00	Free	Outfall	(no Q: R0,C0)
950.31	.00	Free	Outfall	(no Q: R0,C0)
950.56	.00	Free	Outfall	(no Q: R0,C0)
950.81	.00	Free	Outfall	(no Q: R0,C0)
951.06	.00	Free	Outfall	(no Q: R0,C0)
951.31	.00	Free	Outfall	(no Q: R0,C0)
951.56	.00	Free	Outfall	(no Q: R0,C0)
951.81	.00	Free	Outfall	(no Q: R0,C0)
952.06	.00	Free	Outfall	(no Q: R0,C0)
952.31	.00	Free	Outfall	(no Q: R0,C0)
952.56	.00	Free	Outfall	(no Q: R0,C0)
952.81	.00	Free	Outfall	(no Q: R0,C0)
953.06	.00	Free	Outfall	(no Q: R0,C0)
953.31	.00	Free	Outfall	(no Q: R0,C0)
953.56	.00	Free	Outfall	(no Q: R0,C0)
953.81	.00	Free	Outfall	(no Q: R0,C0)
954.06	.00	Free	Outfall	(no Q: R0,C0)
954.31	.00	Free	Outfall	(no Q: R0,C0)
954.56	.00	Free	Outfall	(no Q: R0,C0)
954.81	.00	Free	Outfall	(no Q: R0,C0)
955.06	.00	Free	Outfall	(no Q: R0,C0)
955.31	.00	Free	Outfall	(no Q: R0,C0)
955.40	.00	Free	Outfall	(no Q: R0,C0)
955.56	1.73	Free	Outfall	R0,C0
955.81	7.09	Free	Outfall	R0,C0
956.06	14.48	Free	Outfall	R0,C0
956.31	23.43	Free	Outfall	R0,C0
956.50	31.12	Free	Outfall	R0,C0

WATER QUALITY POND VOLUME & AREA

Elevation (ft)	Planimeter (sq.in)	Area (acres)	A1+A2+sqr(A1*A2) (acres)	Volume (ac--ft)	Volume Sum (ac--ft)
949.81	0	.0000	.0000	.000	.000
950.13	1	.0163	.0163	.002	.002
950.45	1	.0341	.0339	.008	.010
951.00	1	.0341	.1023	.019	.028
952.00	1	.0341	.1023	.034	.062
954.00	1	.0341	.1023	.034	.097
955.00	1	.0341	.1023	.034	.131
956.00	1	.0341	.1023	.034	.165
956.50	1	.0341	.1023	.017	.182

CITY OF SAN ANTONIO PLAN REVIEWER DEVELOPMENT SERVICES DEPT

Drawn	Date	Description	Revision
	06/29/13	ISSUED FOR APPROVAL	6
	05/22/13	ISSUED FOR APPROVAL	5
	05/10/13	ISSUED FOR APPROVAL	4
	03/07/13	ISSUED FOR APPROVAL	3
	04/26/13	ISSUED FOR APPROVAL	2
	01/28/13	ISSUED FOR APPROVAL	1
	01/10/13	ISSUED FOR APPROVAL	0

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Project :
NORTH LOOP RETAIL CENTER
226 & 238 TEXAS LOOP 1604
SAN ANTONIO, TEXAS 78232

Title :
WATER QUALITY POND

PROJECT 28001

SHEET 14 OF 26

TABLE 1: FILTER FABRIC REQUIREMENTS		
Original Physical Properties	Test Method	Requirements
Fabric weight (mass), on an ambient temperature air-dried tension free sample, expressed in oz/ sq. yd (grams/ square meter)	TxDoT Tex-616-J*	Underdrains/Slope Stabilization 4.0 (135) minimum
		Gabions and Revet Mattresses 6.0 (200) minimum
Water flow rate by falling head method, 7.9 inches (20 cm) to 3.9 inches (20 cm) to 3.9 inches (10 cm) or 2 inch (50 mm) ID cylinder with 1 inch (25 mm) diameter orifice, with flow rate expressed in gal/sq.ft/minute (liters/square meter/minute).	TxDoT Tex-616-J*	80 (3,260) minimum
Breaking load in either machine or cross-machine direction, expressed in pounds (newtons)	ASTM D-1682 grab method G**	100 (445) minimum
Equivalent opening size for US Standard (SI) sieves.	CW-02215	70 to 100 (212 to 150mm)
"Apparent elongation" at breaking load in either machine or cross-machine direction, expressed as percent	ASTM D-1682 grab method G**	100 maximum

Specification Item No. 594S
Gabions and Revet Mattresses

594S.2 MATERIALS

GABIONS AND REVET MATTRESSES SHALL BE CONSTRUCTED OF GALVANIZED STEEL WIRE WITH POLYVINYL_CHLORIDE (PVC) FLEXIBLE COATING. THE GABIONS AND REVET MATTRESSES SHALL BE OF THE CONSTRUCTION AND SIZES SPECIFIED IN THE DRAWINGS AND SHALL MEET THE SPECIFICATIONS PRESENTED HEREIN. UNLESS OTHERWISE SPECIFIED IN THE DRAWINGS OR APPROVED BY THE ENGINEER OR DESIGNATED REPRESENTATIVE, THE GABIONS AND REVET MATTRESSES MAY BE CONSTRUCTED OF EITHER DOUBLE TWIST WOVEN MESH OR WELDED WIRE MESH.

GABIONS SHALL BE FURNISHED IN THE SPECIFIED DIMENSIONS WITHIN A TOLERANCE OF ± 5 PERCENT. REVET MATTRESSES SHALL BE FURNISHED IN THE SPECIFIED DIMENSIONS WITHIN A TOLERANCE OF 5 PERCENT FOR THE LENGTH AND WIDTH AND 10 PERCENT FOR THE HEIGHT. FOR EACH INDIVIDUAL GABION OR REVET MATTRESS, THE SAME MESH STYLE SHALL BE USED FOR THE BASE, FRONT, ENDS, BACK, DIAPHRAGMS AND LID PANELS. EACH GABION OR REVET MATTRESS SHALL BE MANUFACTURED AND DIVIDED INTO CELLS OF EQUAL LENGTH, NO GREATER THAN 3 FEET (0.9 METER), BY DIAPHRAGM PANELS.

(1) GABION AND REVET MATTRESS WIRE

GABION WIRE SHALL BE GALVANIZED STEEL, CLASS 3 OR A COATING, SOFT TEMPER CONFORMING TO ASTM A 641, AND SHALL SPECIFICALLY MEET THE REQUIREMENTS GIVEN BELOW FOR GABIONS (12 GAGE WIRE) AND/OR REVET MATTRESSES (13.5 WIRE GAGE) AS CALLED FOR IN THE DRAWINGS. PVC COATING OF THE WIRE MAY BE FUSE_BONDED OR EXTRUDED ONTO THE WIRE. GALVANIZATION OF WELDED WIRE SHALL BE PERFORMED EITHER BEFORE OR AFTER WELDING.

Table 1: Requirements – Mesh Wire for Gabions and Revet Mattress Units

Characteristic	Gabions	Revet Mattresses
Wire Gage	12 gage	13.5 gage
Maximum Tensile Strength (ASTM 641)	70,000 psi (483 mPa)	75,000 psi (517 mPa)
Nominal Wire Diameter (ASTM A 641)	0.106 inch (2.7 mm)	0.0866 inch (2.2 mm)
Minimum Diameter (ASTM A 641, Table 3)	0.102 inch (2.6 mm)	0.0828 inch (2.9 mm)
Galvanizing, Zinc (ASTM A 641, Table 1)	0.80 oz/ft2 (245 gr/m2)	0.70 oz/ft2 (215 gr/m2)

(2) GABION MESH

(A) WOVEN MESH

WOVEN MESH SHALL BE OF A UNIFORM NON_RAVELING, DOUBLE TWIST HEXAGONAL PATTERN NOMINALLY OF DIMENSIONS 3.25 INCHES BY 4.5 INCHES (83 MM BY 114 MM). SELVEDGE WIRE SHALL BE 10 GAGE (NOMINAL DIAMETER OF 3.4 MM).

(B) WELDED MESH

MESH OPENING SHALL BE NOMINALLY 3 INCHES BY 3 INCHES (75 MM BY 75 MM). STRENGTH OF WELDS SHALL MEET THE FOLLOWING REQUIREMENTS WHEN TESTED IN ACCORDANCE WITH SECTION 13.4 OF ASTM A-974:

Table 2: Minimum Weld Strength Requirements

Type of Structure	Wire Size (Diameter)		Minimum Average Weld Shear Strength
	Gage	(mm)	English Units (SI Units)
Gabions	12	(2.7)	472 lbf (2.10 kN)
Revet Mattress	13.5	(2.2)	292 lbf (1.30 kN)

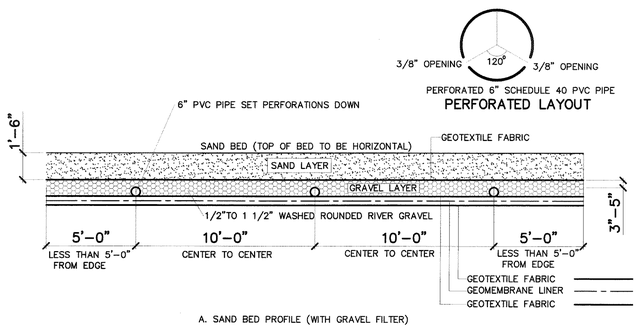


FIGURE 1-56 SAND BED FILTRATION CONFIGURATIONS USING GEOMEMBRANE LINER

(C) MANUFACTURING

TWISTED WIRE MESH GABIONS SHALL BE MANUFACTURED IN CONFORMANCE WITH ASTM A-975, WHILE WELDED WIRE MESH GABIONS SHALL BE MANUFACTURED IN CONFORMANCE WITH ASTM A-974.

(3) REVET MATTRESSES

(A) WOVEN MESH

WOVEN MESH SHALL BE OF A UNIFORM NON_RAVELING, DOUBLE TWIST HEXAGONAL PATTERN, NOMINALLY OF DIMENSIONS 2.5" X 3.25" (64 MM BY 83 MM). SELVEDGE WIRE SHALL BE 12 GAGE (NOMINAL DIAMETER OF 2.7 MM).

(B) WELDED MESH

MESH OPENING SHALL BE NOMINALLY 1.5" X 3.0" (38 MM BY 76 MM). STRENGTH OF WELDS SHALL MEET THE REQUIREMENTS LISTED IN TABLE 2 FOR 13.5 GAGE (2.2 MM) WIRE, WHEN TESTED IN ACCORDANCE WITH SECTION 13.4 OF ASTM A-974:

(C) MANUFACTURING

TWISTED WIRE MESH REVET MATTRESSES SHALL BE MANUFACTURED IN CONFORMANCE WITH ASTM A-975, WHILE WELDED WIRE MESH REVET MATTRESSES SHALL BE MANUFACTURED IN CONFORMANCE WITH ASTM A-974.

(4) PVC COATING

ALL WIRE USED IN FABRICATION OF THE GABIONS, REVET MATTRESSES AND WIRING OPERATIONS DURING CONSTRUCTION SHALL, AFTER ZINC COATING, HAVE A FUSE_BONDED OR EXTRUDED COATING OF PVC. THE COATING SHALL BE GRAY IN COLOR. THE THICKNESS SHALL BE NOMINALLY 0.020 INCH (0.5 MM), AND SHALL NOT BE LESS THAN 0.015 INCH (0.38 MM) IN THICKNESS. IT SHALL BE CAPABLE OF RESISTING DELETERIOUS EFFECTS OF NATURAL WEATHER EXPOSURE, AND IMMERSION IN SALT WATER.

FOR PVC-COATED WELDED WIRE FABRIC PANEL, CUTTING OF THE PANELS SHALL NOT BE ALLOWED CLOSER THAN 1/4 INCH 1/8 INCH (6 MM 3.18 MM) AFTER FABRICATION IN ORDER TO PREVENT EXPOSURE NEAR THE WELDS.

(A) INITIAL PROPERTIES:

1) WOVEN MESH:

THE INITIAL PROPERTIES OF THE PVC COATING MATERIAL SHALL HAVE A DEMONSTRATED ABILITY TO CONFORM TO THE FOLLOWING REQUIREMENTS SPECIFIED IN ASTM A-975:

A) SPECIFIC GRAVITY:

THE SPECIFIC GRAVITY AS DETERMINED IN ACCORDANCE WITH ASTM D-792 SHALL BE BETWEEN 1.3 TO 1.35.

B) DUROMETER HARDNESS:

THE HARDNESS AS DETERMINED IN ACCORDANCE WITH ASTM D-2240 SHALL BE BETWEEN 50 TO 60, SHORE D.

C) TENSILE STRENGTH:

THE TENSILE STRENGTH WHEN TESTED IN ACCORDANCE WITH ASTM D-412 SHALL NOT BE LESS THAN 2985 PSI (20.6 MPA).

D) MODULUS OF ELASTICITY AT 100% ELONGATION:

THE MODULUS OF ELASTICITY WHEN DETERMINED IN ACCORDANCE WITH ASTM D-412 SHALL NOT BE LESS THAN 2700 PSI (18.6 MPA).

E) RESISTANCE TO ABRASION:

THE PERCENTAGE LOSS IN WEIGHT (MASS) DURING ABRASION TESTING IN ACCORDANCE WITH ASTM D-1242 SHALL BE LESS THAN 12%.

F) BRITTLENESS TEMPERATURE:

THE BRITTLENESS TEMPERATURE SHALL NOT BE HIGHER THAN 150F (-9.00C) OR A LOWER TEMPERATURE SPECIFIED BY THE ENGINEER, WHEN TESTED IN ACCORDANCE WITH ASTM D-746. THE MAXIMUM BRITTLENESS TEMPERATURE SHOULD BE AT LEAST 150F (80C) BELOW THE MINIMUM TEMPERATURE AT WHICH THE GABION WILL BE HANDLED OR FILLED.

2) WELDED MESH:

THE INITIAL PROPERTIES OF THE PVC COATING MATERIAL SHALL HAVE A DEMONSTRATED ABILITY TO CONFORM TO THE FOLLOWING REQUIREMENTS SPECIFIED IN ASTM A-974:

A SPECIFIC GRAVITY:

THE SPECIFIC GRAVITY AS DETERMINED IN ACCORDANCE WITH ASTM D-792 SHALL BE BETWEEN 1.20 AND 1.40.

B) DUROMETER HARDNESS:

THE HARDNESS AS DETERMINED IN ACCORDANCE WITH ASTM D-2240 SHALL NOT BE LESS THAN 75, SHORE A.

C) TENSILE STRENGTH:

THE TENSILE STRENGTH WHEN TESTED IN ACCORDANCE WITH ASTM D-638 SHALL NOT BE LESS THAN 2275 PSI (15.7 MPA).

D) MODULUS OF ELASTICITY:

THE MODULUS OF ELASTICITY WHEN DETERMINED IN ACCORDANCE WITH ASTM D-638 SHALL NOT BE LESS THAN 1980 PSI (13.7 MPA).

E) RESISTANCE TO ABRASION:

THE PERCENTAGE LOSS IN WEIGHT (MASS) SHALL BE LESS THAN 12 % DURING ABRASION TESTING IN ACCORDANCE WITH ASTM D-1242, METHOD B, AT 200 CYCLES, CSI-A ABRADER TAPE, 80 GRIT.

F) BRITTLENESS TEMPERATURE:

THE BRITTLENESS TEMPERATURE SHALL NOT BE HIGHER THAN 150F (-9.00C) OR A LOWER TEMPERATURE SPECIFIED BY THE ENGINEER, WHEN TESTED IN ACCORDANCE WITH ASTM D-746. THE MAXIMUM BRITTLENESS TEMPERATURE SHOULD BE AT LEAST 150F (80C) BELOW THE MINIMUM TEMPERATURE AT WHICH THE GABION WILL BE HANDLED OR FILLED.

G) ADHESION:

THE PVC COATING ON THE WIRE SHALL ADHERE TO THE WIRE SUCH THAT THE COATING BREAKS RATHER THAN SEPARATES FROM THE WIRE, WHEN TESTED IN ACCORDANCE WITH THE PVC ADHESION TEST DESCRIBED IN SECTION 13.3 OF ASTM A-974.

H) MANDREL BEND:

THE PVC-COATED WIRE, WHEN SUBJECTED TO A SINGLE 3600 BEND AT 00F (-180C) AROUND A MANDREL TEN TIMES THE DIAMETER OF THE WIRE, SHALL NOT EXHIBIT BREAKS OR CRACKS IN THE PVC COATING.

(B) PERFORMANCE TESTS:

THE PVC COATING SHALL HAVE THE DEMONSTRATED ABILITY TO WITHSTAND THE SPECIFIED EXPOSURE TESTING.

1) EXPOSURE TO SALT SPRAY: THE PVC SHALL SHOW NO EFFECT AFTER 3000 HOURS OF SALT SPRAY EXPOSURE IN ACCORDANCE WITH ASTM TEST METHOD B-117.

2) EXPOSURE TO ULTRAVIOLET RAYS: THE PVC SHALL SHOW NO EFFECT OF EXPOSURE TO ULTRAVIOLET LIGHT WITH TEST EXPOSURE OF 3000 HOURS, USING APPARATUS TYPE E AND 1450F (630C), WHEN TESTED IN ACCORDANCE WITH ASTM PRACTICE D-1499 AND G-23.

(C) PROPERTIES AFTER EXPOSURE TESTS:

AFTER CONCLUSION OF THE SALT SPAY AND EXPOSURE TO ULTRAVIOLET LIGHT TESTS, THE PVC SHALL NOT SHOW CRACKS, BLISTERS OR SPLITS, NOR ANY NOTICEABLE CHANGE IN COLOR. IN ADDITION THE PVC COATING SHALL NOT SHOW CRACKS OR BREAKS AFTER THE WIRES ARE TWISTED IN THE FABRICATION OF THE MESH, NOR SHALL THERE BE ANY MOISTURE INTRUSION UNDER THE PVC COATING AS A RESULT OF THE TEST.

AFTER COMPLETION OF THE EXPOSURE TESTS THE FOLLOWING CRITERIA SHALL ALSO BE MET:

1) WOVEN MESH:

A) THE SPECIFIC GRAVITY SHALL NOT CHANGE MORE THAN 6% OF ITS INITIAL VALUE.

B) THE DUROMETER HARDNESS SHALL NOT CHANGE MORE THAN 10% OF ITS INITIAL VALUE.

C) THE TENSILE STRENGTH SHALL NOT CHANGE MORE THAN 25% OF ITS INITIAL VALUE.

D) THE RESISTANCE TO ABRASION SHALL NOT CHANGE MORE THAN 10% OF ITS INITIAL VALUE.

2) WELDED MESH:

A) THE SPECIFIC GRAVITY SHALL NOT CHANGE MORE THAN 6% OF ITS INITIAL VALUE.

B) THE MODULUS OF ELASTICITY SHALL NOT CHANGE MORE THAN 25% OF ITS INITIAL VALUE.

C) THE TENSILE STRENGTH SHALL NOT CHANGE MORE THAN 25% OF ITS INITIAL VALUE.

D) THE RESISTANCE TO ABRASION SHALL NOT CHANGE MORE THAN 10% OF ITS INITIAL VALUE.

(D) SALT SPRAY RESISTANCE FOR FASTENER:

THE FASTENERS FOR TWISTED MESH WIRE GABIONS AND REVET MATTRESSES SHALL BE SUBJECTED TO SALT SPRAY TEST OF TEST METHOD B-117 FOR A PERIOD OF NOT LESS THAN 48 1 HOUR CYCLE LENGTH. AFTER TESTING THE FASTENERS, THE SELVEDGE, OR MESH WIRE CONFINED BY THE FASTENERS SHALL SHOW NO RUSTY SPOTS ON ANY PART OF THE SURFACE EXCLUDING THE CUT ENDS.

(5) STONE

(A) GABION BASKET STONES

STONE FILL SHALL BE DURABLE AND OF SUITABLE QUALITY TO ENSURE PERMANENCE IN THE STRUCTURE. THE STONE USED TO FILL THE GABION BASKETS SHALL BE A CLEAN, SOUND, AND DURABLE ROCK MEETING THE FOLLOWING REQUIREMENTS. IT SHALL HAVE A WEARING LOSS LESS THAN 35 PERCENT WHEN THE STONE IS TESTED WITH THE LOS ANGELES ABRASION MACHINE IN ACCORDANCE WITH ASTM TEST METHOD C535 (TXDOT TEST METHOD TEX-410_A). THE LOSS OF MATERIAL EXPERIENCED DURING FIVE CYCLES OF MAGNESIUM SULFATE EXPOSURE CONDUCTED IN ACCORDANCE WITH TXDOT TEST METHOD TEX_411_A FOR ROCK RIPRAP SHALL NOT EXCEED 18 PERCENT. THE STONE SHALL BE WELL GRADED TO PRODUCE A DENSE FILL, ANGULAR IN TEXTURE, WHILE MEETING THE FOLLOWING GRADATION REQUIREMENTS:

Table 3: Gabion Stone Gradation Requirements

Sieve Size		Percent by Weight (Mass)
US	(SI)	% Passing Each Individual Sieve
8 Inch	(200 mm)	100
4 Inch	(100 mm)	0 – 5
3 Inch	(75 mm)	0

THE MINIMUM UNIT WEIGHT (UNIT MASS) OF A ROCK_FILLED GABION SHALL BE 120 PCF [1.92 MEGAGRAMS (MG) PER CUBIC METER]. VERIFICATION OF UNIT WEIGHT (MASS) SHALL BE PERFORMED WHEN ORDERED BY THE ENGINEER, BY CONSTRUCTING A TEST GABION WITH MATERIALS SUPPLIED FOR CONSTRUCTION WITH THE SAME EFFORT AND METHOD INTENDED FOR PRODUCTION GABIONS.

(B) REVET MATTRESS STONE:

THE STONE USED TO FILL THE REVET MATTRESSES SHALL BE AS SPECIFIED FOR GABIONS EXCEPT THAT IT SHALL HAVE A MAXIMUM DIMENSION OF 5 INCHES (125MM) AND A MINIMUM DIMENSION OF 3 INCHES (75 MM). THE MAJORITY OF THE STONE SHALL BE IN THE 3 TO 4 INCH (75 TO 100 MM) RANGE; CUBICAL OR ROUNDED IN SHAPE. A TOLERANCE OF 5% SHALL BE ALLOWED ON THE UPPER AND LOWER DIMENSIONS OF THE ROCK.

(6) CONNECTIONS

(A) WIRE

LACING WIRE AND CONNECTING WIRE SHALL BE 13.5 GAGE [0.087 INCH (2.20 MM)] PVC COATED GALVANIZED STEEL, CLASS 3, SOFT TEMPER, CONFORMING TO ASTM A-641. DURING TESTING, ANY SEPARATION OF 2 INCHES (50 MM) OR MORE BETWEEN CONNECTING WIRES SHALL BE CONSIDERED AS A FAILURE.

(B) SPIRAL BINDER FOR WELDED WIRE MESH

SPIRAL BINDERS SHALL CONSIST OF 0.106 INCH (2.7 MM) PVC COATED WIRE FOR THE GABION AND 0.087 INCH (2.2 MM) PVC COATED WIRE FOR THE REVET MATTRESSES. SPIRAL BINDERS SHALL HAVE A 3.0 INCH (75 MM) MAXIMUM SEPARATION BETWEEN CONTINUOUS SUCCESSIVE LOOPS (3 INCH OR 75MM PITCH). THE BINDER SHALL BE MADE OF GALVANIZED STEEL, CLASS 3, SOFT TEMPER, CONFORMING TO ASTM A-641.

(C) ALTERNATE FASTENERS FOR TWSTED WOVEN MESH

ALTERNATE FASTENERS, ACCEPTABLE FOR USE BY THE INTENDED GABION BASKET MANUFACTURER, MAY BE SUBMITTED TO THE ENGINEER FOR CONSIDERATION AND APPROVAL PRIOR TO CONSTRUCTION. THE FASTENERS MAY CONSIST OF SPLIT RING OR INTERLOCKING FASTENERS. ALTERNATE FASTENERS SYSTEMS SHALL PRODUCE A JOINT THAT MEETS THE REQUIREMENTS OF ASTM A-975, SECTION 7, TABLE 2.

(7) FASTENER SYSTEM

THE CONTRACTOR SHALL PROVIDE A COMPLETE DESCRIPTION OF THE FASTENER SYSTEM, INCLUDING THE NUMBER OF FASTENERS REQUIRED FOR ALL VERTICAL AND HORIZONTAL CONNECTIONS FOR SINGLE- AND MULTIPLE-BASKET JOININGS, AS WELL AS THE NUMBER AND SIZE WIRES THE FASTENER IS CAPABLE OF PROPERLY JOINING. THE CONTRACTOR SHALL PROVIDE A DESCRIPTION OF A PROPERLY INSTALLED FASTENER, INCLUDING TEST REPORTS, DRAWINGS AND/OR PHOTOGRAPHS. PROPERLY FORMED FASTENERS SHALL MEET THE REQUIREMENTS OF ASTM A-974 FOR WELDED WIRE MESH OR ASTM A-975 FOR TWISTED WOVEN MESH.

(A) EACH INTERLOCKING FASTENER SHALL BE LOCKED AND CLOSED.

(B) EACH OVERLAPPING RING FASTENER SHALL BE CLOSED AND THE FREE ENDS SHALL OVERLAP AN AVERAGE OF 1 INCH (25 MM).

(C) SPIRAL BINDERS SHALL BE SCREWED INTO POSITION SUCH THAT THEY PASS THROUGH EACH MESH OPENING ALONG THE JOINT. IN ORDER TO PREVENT UNRAVELING, BOTH ENDS OF THE SPIRAL SHALL BE CRIMPED BACK AROUND ITSELF.

(D) WIRE FASTENERS SHALL NOT BE USED TO JOIN MORE WIRES, OR LARGER WIRES, THAN TESTED AND APPROVED FOR THE APPLICATION.

(8) PANEL TO PANEL JOINT STRENGTH

THE MINIMUM STRENGTH OF THE JOINED PANELS SHALL BE AS SPECIFIED IN SECTION 7.3 OF ASTM A-974 FOR WELDED WIRE PANELS OR SECTION 7.3 OF ASTM A-975 FOR TWISTED WOVEN MESH.

(9) MISCELLANEOUS

AGGREGATE BEDDING, GEOTEXTILES OR OTHER MATERIALS SHALL CONFORM TO THE REQUIREMENTS ESTABLISHED ON THE DRAWINGS.

(10) CERTIFICATE OF COMPLIANCE

THE CONTRACTOR SHALL SUBMIT CERTIFICATES OF COMPLIANCE FOR ALL MATERIALS PROPOSED FOR USE TO THE ENGINEER FOR REVIEW AND APPROVAL ONE WEEK PRIOR TO CONSTRUCTION.

Sand Bed. The sand bed for city-maintained filtration basins must be built to the "Sand Bed with Gravel Layer" configuration below unless topographic constraints make this design unfeasible. Unfeasible is considered: assuming (for the purposes of this selection process only) a maximum ponding depth of three feet in the sedimentation basin, If it is not feasible to obtain an outlet for the drainage from the filtration basin within one-hundred (100) feet of the crest of the filtration embankment, then the "trench design" may be used. For ponds not maintained by the city, the sand bed may be a choice of one of the two configurations given below.

Note: Sand bed depths are final, compacted depths. Consolidation effects must be taken into account.

– Sand Bed with Gravel Layer (detail #3/13 of this sheet).

The top layer is to be a minimum of twelve (12) inches of 0.02-0.04 inch diameter sand which corresponds with ASTM C-33 concrete sand (smaller sand size is not acceptable). Under the sand shall be a layer of one-half (0.5) to one and one-half (1.5) inch diameter washed, rounded, river gravel which provides a minimum of three (3) inches of cover over the top of the underdrain lateral pipes. Two (2) inches of gravel is required under the lateral pipes. The sand and gravel must be separated by a layer of geotextile fabric meeting the specifications listed in Section 1.6.2(C).

STATE OF TEXAS
MIRZA TAHIR BAIG
82577
REGISTERED PROFESSIONAL ENGINEER
THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY MIRZA TAHIR BAIG, P.E., #82577 ON 06/29/2013
FIRM REGISTRATION F-4951
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Revision	Description	Date	Drawn
6	ISSUED FOR APPROVAL	06/29/13	
5	ISSUED FOR APPROVAL	05/22/13	
4	ISSUED FOR APPROVAL	05/10/13	
3	ISSUED FOR APPROVAL	05/07/13	
2	ISSUED FOR APPROVAL	04/26/13	
1	ISSUED FOR APPROVAL	03/28/13	
0	ISSUED FOR APPROVAL	01/30/13	

PROFESSIONAL STRUCTURAL ENGINEERS, INC.
CONSULTING CIVIL AND STRUCTURAL ENGINEERS
12710 RESEARCH BLVD., SUITE 380, AUSTIN, TX 78759 | TEL: 512.258.6422 | FAX: 512.258.8095

Project : NORTH LOOP RETAIL CENTER
226 & 238 TEXAS LOOP 1604
SAN ANTONIO, TEXAS 78232

Title : SAND FILTRATION POND DETAIL

PROJECT 28001

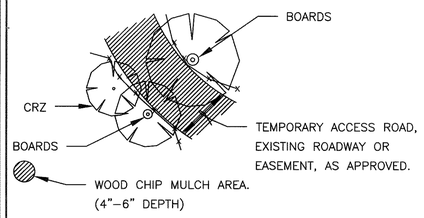
SHEET 15 OF 26

CITY OF SAN ANTONIO PLAN REVIEW DEVELOPMENT SERVICES DEPT

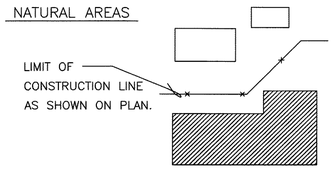
TREE PROTECTION FENCE LOCATIONS

NO SCALE

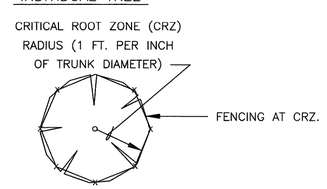
LINEAR CONSTRUCTION THROUGH TREES



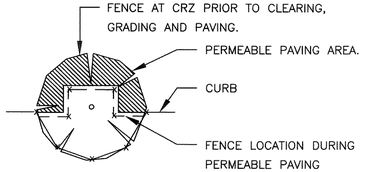
NATURAL AREAS



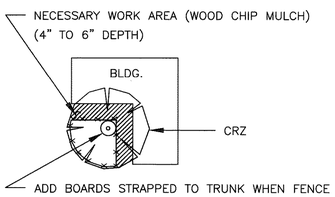
INDIVIDUAL TREE



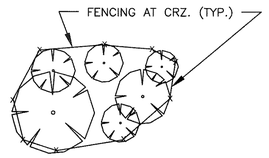
TREES IN PAVING AREA



TREES NEAR CONSTRUCTION ACTIVITY



GROUP OF TREES

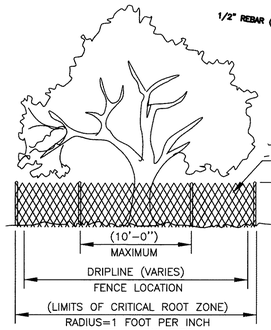


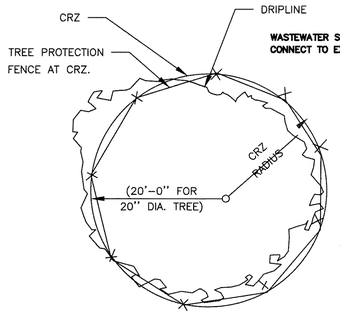
NOTE:

LIMITS OF MULCH AREAS AND DISTANCE FROM TRUNKS TO WORK/ PERMEABLE PAVING AREAS SHALL BE SUBJECT TO THE APPROVAL OF THE FORESTRY MANAGER.

TREE PROTECTION FENCE - CHAIN LINK

NO SCALE

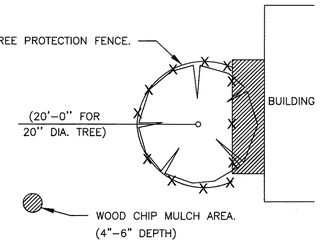


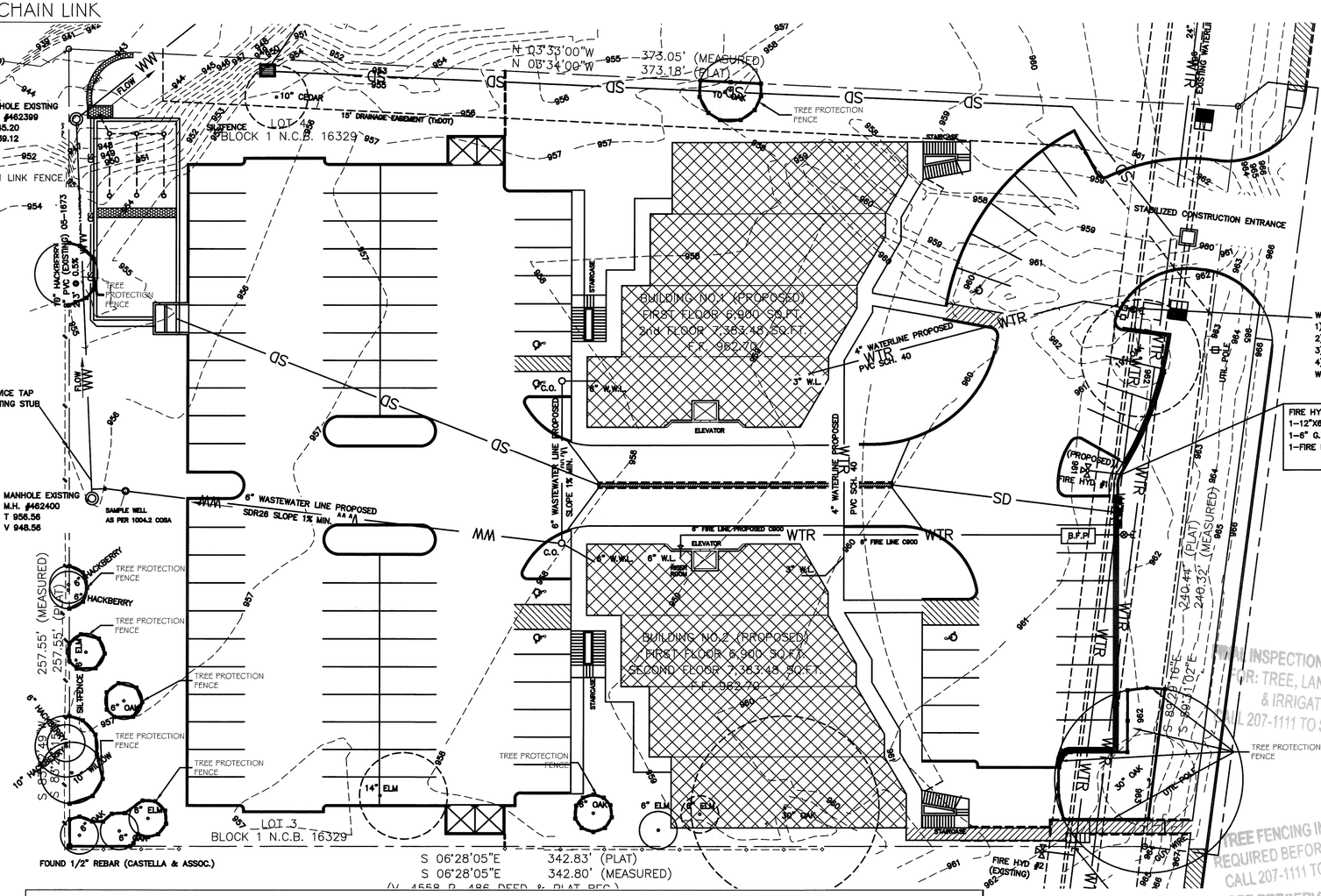


*AS NEEDED TO PROVIDE NECESSARY WORK SPACE. IF LESS THAN 5', THEN ADD BOARDS STRAPPED TO TRUNK.

NOTE:

LIMITS OF WOOD CHIP MULCH AREA AND DISTANCE FROM TRUNK TO WORK AREA SHALL BE SUBJECT TO THE APPROVAL OF THE FORESTRY MANAGER.





TREE INVENTORY TEMPLATE

Tag #	Species	Understory Species* 5.0" - 11.5" Removed	Understory Species* 5.0" - 11.5" Preserved	Significant Tree 6" - 23.5" Removed	Significant Tree 6" - 23.5" Preserved	Significant Tree** 10.0" - 23.5" Removed	Significant Tree** 10.0" - 23.5" Preserved	Heritage 3:1 Removed	Heritage 3:1 Preserved	Heritage 1:1 Removed	Heritage 1:1 Preserved	Additional Inches Preserved for Mitigation *** Preserved
N/A	Cedar (Ash Juniper)					10						
N/A	Oak				10							
N/A	Oak			19								
N/A	Oak								30			
N/A	Oak							30				
N/A	Elm			6								
N/A	Elm				6							
N/A	Oak				6							
N/A	Elm			14								
N/A	Elm				6							
N/A	Oak				6							
N/A	Oak				6							
N/A	Willow				10							
N/A	Hackberry					10						
N/A	Hackberry											6
N/A	Oak				6							
N/A	Elm				6							
N/A	Hackberry											6
N/A	Hackberry											6
N/A	Hackberry						10					
Sub. Tot. Inches=		0	0	39	62	20	10	30	30	0	0	18
Total inches by category=			0		101		30		60		0	
Preservation percentage=		#DIV/0!		Significant Preservation		55%		Heritage Preservation		50%		18
Mitigation required (Commercial) =		0		Commercial (inches)		-19.6						
Mitigation required (Residential) =		0		Residential (inches)		-26.15		Heritage Mitigation (inches)		90		

No category to fall below 10% preservation;

Preserved- Tree to remain that meets root protection zone requirements described in section 35-523 of the UDC.

Mitigation 1:1 for significant trees below minimum preservation requirements; 3:1 for heritage trees below 100% preservation

** Small species: Condalia, Redbud, Tx. Mountain Laurel, Tx. Persimmon, Hawthorn, Possumhaw - these are mitigated at 1:1 for Heritage Trees*

*** Ashe Juniper, Huisache, Mesquite, Arizona Ash, Hackberry protected at 10" dbh and mitigated at 1:1 for heritage trees*

**** Mitigation Trees: Unprotected-sized trees to be used for mitigation calculations; subtract inches from mitigation owed*

TREE CALCULATIONS

APPROVED 7/15/13 BY

TREE PRESERVATION	REQUIRED	PROVIDED
FINAL TREE CANOPY COVER (25% of site) Existing Trees: 10,500sf Proposed Trees: 32,400sf	22,223sf	42,900sf
SIGNIFICANT TREES RETAINED	40%	55%
HERITAGE TREES RETAINED (30" Removed, mitigated 3:1)	100%	50%

TREE MITIGATION	REQUIRED	PROVIDED
SIGNIFICANT TREES (1:1 replacement ratio)	--	--
HERITAGE TREES (3:1 replacement ration)	90"	91.5"

18" Existing Credit + 73.5" Proposed= 91.5"

Number & Size of replacement tree total:

81" of proposed trees

~27 trees @ 3"caliper = 81

~Less Lot Shading Tree Inches

1 tree @ 1.5" caliper = -1.5

~Less Street Tree Inches

4 trees @ 1.5" caliper = -6

Total Proposed Provided = 73.5"

SYMBOL KEY

-Kept Existing Tree -Removed Existing Tree

0 20 40 60 feet

SCALE: 1" = 20'

NORTH

CITY OF SAN ANTONIO PLAN REVIEWER DEVELOPMENT SERVICES DEPT.

TREE INSPECTIONS REQUIRED FOR: TREE, LANDSCAPE, & IRRIGATION CALL 207-1111 TO SCHEDULE

TREE FENCING INSPECTION REQUIRED BEFORE SITE WORK CALL 207-1111 TO SCHEDULE

TREE PRESERVATION APPROVED DATE 7/15/13 BY

Design by: Will Blair
Date: 1/22/13
Revisions: 3/28/13, 5/23/13, 6/27/13

Company Name and Address
William S. Blair
Landscape Architect
Cert. # 2741
(512) 589-7873
Will@B-HLA.com
B-HLA.com
PO Box 82314
Austin, TX 78708

BLAIR-HILL LANDSCAPE ARCHITECTS

B-H LANDSCAPE ARCHITECTS

REGISTERED LANDSCAPE ARCHITECT STATE OF TEXAS

Project Name and Address

North Loop Retail Center
226 & 238 Texas Loop
San Antonio, TX 78221

Sheet Title

Tree Preservation/ Canopy Plan

Landscape Sheet

16 OF 25

#1854760

LANDSCAPE CALCULATIONS

MANDATORY REQUIREMENTS

	REQUIRED	PROVIDED
BUFFER- Type * *	N/A	--lf
Length	--	--
Canopy Trees	--	--
Understory Trees	--	--
Large Shrubs	--	--
Medium Shrubs	--	--
Small Shrubs	--	--
SCREENING	N/A	--lf
PARKING LOT SHADING	10,982sf	11,400sf

Total Shade Area (25% of parking lot)
Existing Trees: (10,500sf X 100%= 10,500sf)
Island/Peninsula Trees: (1 X 1200sf X 75%=900sf)
Adjacent Parking Trees: (-- x 1200sf X 50%=--sf)
Total Provided: 11,400sf

ELECTIVE REQUIREMENTS

	REQUIRED POINTS	PROVIDED POINTS
TOTAL ELECTIVE POINTS	70pts	80pts

	REQUIRED	PROVIDED	POINTS
NO STREET YARD PARKING	--	--	--pts
TREE PRESERVATION			30pts
4-6" DBH (-- X 3ea=--)			
6-12" DBH (10 X 4ea=38)			
12-18" DBH (-- X 6ea=--)			
18"+ DBH (1 X 8ea=8)			
SCREENING OF SURFACE PARKING: Street Yard Frontage Parking (135lf)	135lf	135lf	25pts
STREET TREES (202lf frontage X 75%= 152) / 50=4 trees; 1 Existing Tree + 3 Proposed=4 trees	4	4	25pts
UNDERSTORY PRESERVATION (10X20' minimum area)	--	--	--pts
INFILL OR COMMERCIAL RETROFIT USE PATERNS (Addition of 4,300sf impervious)	--	--	--pts

STREETSCAPE PLANTING STANDARDS

STREET TREES (if not provided in elective req.)	REQUIRED	PROVIDED
Large Street Trees (--lf frontage / 50=--trees)	N/A	--
Medium Street Trees (--lf frontage / 30=--trees)	N/A	--

TREE CALCULATIONS

TREE PRESERVATION

	REQUIRED	PROVIDED
FINAL TREE CANOPY COVER (25% of site)	22,223sf	42,900sf
SIGNIFICANT TREES RETAINED	40%	55%
HERITAGE TREES RETAINED (30" Removed, mitigated 3:1)	100%	50%

Existing Trees: 10,500sf
Proposed Trees: 32,400sf

TREE MITIGATION

	REQUIRED	PROVIDED
SIGNIFICANT TREES (1:1 replacement ratio)	--	--
HERITAGE TREES (3:1 replacement ration)	90"	91.5"

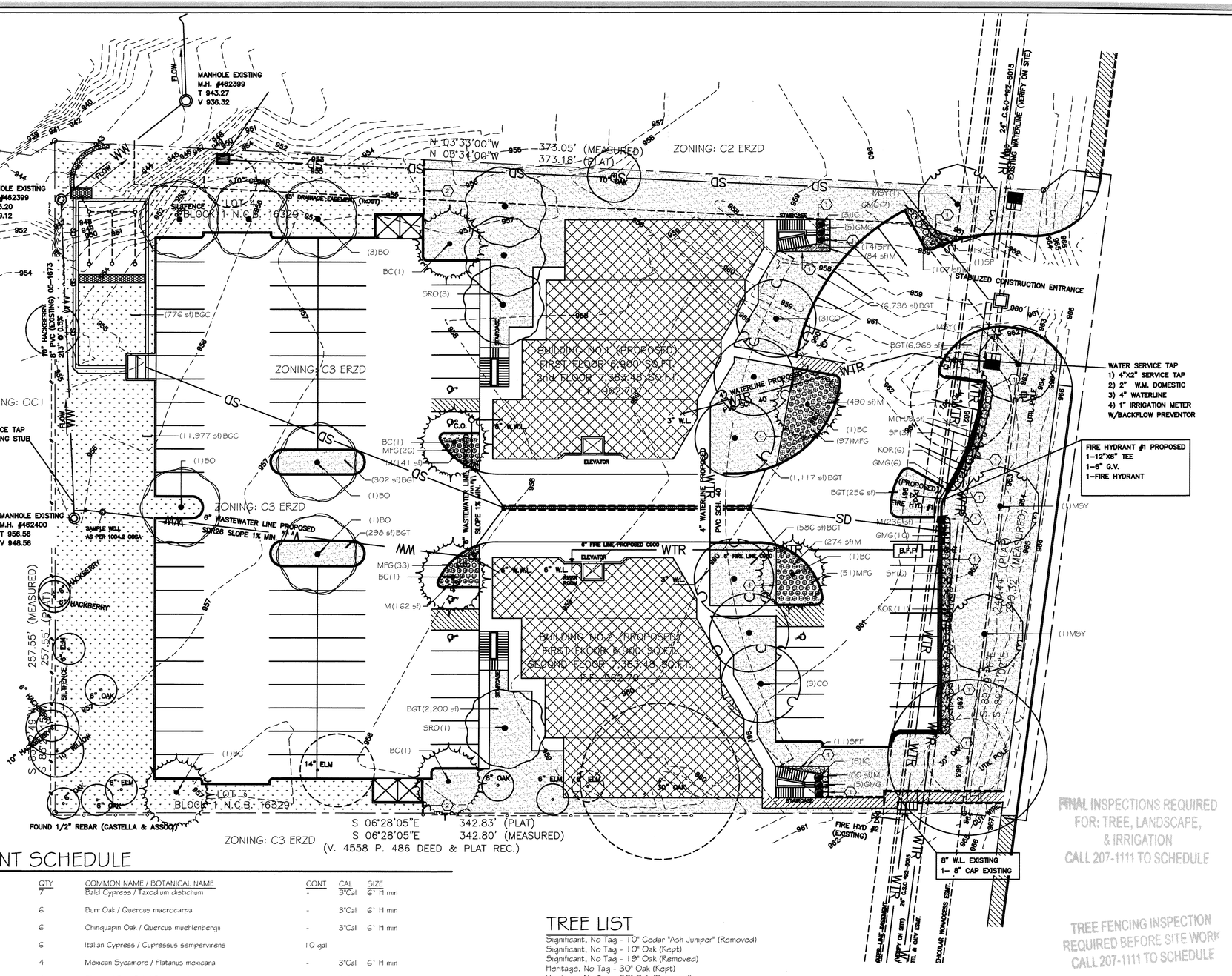
18" Existing Credit + 73.5" Proposed= 91.5"
Number & Size of replacement tree total:
81" of proposed trees
~27 trees @ 3"caliper = 81
~Less Lot Shading Tree Inches
1 tree @ 1.5" caliper = -1.5
~Less Street Tree Inches
4 trees @ 1.5" caliper = -6
Total Proposed Provided = 73.5"

REFERENCE NOTES SCHEDULE

SYMBOL	DESCRIPTION	QTY
1	STEEL BORDER, 1" HEIGHT ABOVE SOIL MAT OF SOD/HYDROMULCH. FLUSH WITH TOP OF CONCRETE WHERE THEY MEET. SEE SPECIFICATIONS SHEET.	293 lf
2	LIMIT OF SOD LAWN.	

SYMBOL KEY

-Kept Existing Tree -Removed Existing Tree



PLANT SCHEDULE

TREES	QTY	COMMON NAME / BOTANICAL NAME	CONT	CAL	SIZE
BC	7	Bald Cypress / Taxodium distichum	-	3"Cal	6` H min
BO	6	Burr Oak / Quercus macrocarpa	-	3"Cal	6` H min
CO	6	Chinquapin Oak / Quercus muehlenbergii	-	3"Cal	6` H min
IC	6	Italian Cypress / Cupressus sempervirens	10 gal		
MSY	4	Mexican Sycamore / Platanus mexicana	-	3"Cal	6` H min
SRO	4	Shumard Red Oak / Quercus shumardii	-	3"Cal	6` H min
SHRUBS	QTY	COMMON NAME / BOTANICAL NAME	CONT		
GMG	33	Gulf Muhly Grass / Muhlenbergia capillaris `Autumn Blush`	1 gal		
KOR	17	Knock Out Rose / Rosa aciculans `Knock Out`	5 gal		
MFG	207	Mexican Feather Grass / Stipa tenacissima	6" Pot		
SP	10	Sago Palm / Cycas revoluta	5 gal		
GROUND COVERS	QTY	COMMON NAME / BOTANICAL NAME	CONT		SPACING
SPF	44	Silver Ponyfoot / Dichondra argentea	4"pot		18"
BED MATERIAL	QTY	COMMON NAME / BOTANICAL NAME	CONT		SPACING
M	1,682 sf	Mulch / Shredded Hardwood 3" deep with 3" of compost tilled at a depth of 6" in all areas of the bed. Drip irrigation.	mulch		
SOD/SEED	QTY	COMMON NAME / BOTANICAL NAME	CONT		SPACING
BGC	12,753 sf	Bermuda Grass, Common, Hydromulch / Cynodon dactylon Provide 2" of additional topsoil. Top of lawn 1" below top of adjacent concrete/hardscape. Spray irrigation. No irrigation within detention pond.	seed		
BGT	18,465 sf	Bermuda Grass, Tif 419, Sod / Cynodon dactylon `Tif 419` Provide 2" of additional topsoil. Top of lawn 1" below top of adjacent concrete/hardscape. Roll sod. Spray irrigation.	sod		

TREE LIST

Significant, No Tag - 10" Cedar "Ash Juniper" (Removed)
Significant, No Tag - 10" Oak (Kept)
Significant, No Tag - 19" Oak (Removed)
Heritage, No Tag - 30" Oak (Kept)
Heritage, No Tag - 30" Oak (Removed)
Significant, No Tag - 6" Elm (Removed)
Significant, No Tag - 6" Elm (Removed)
Significant, No Tag - 6" Oak (Kept)
Significant, No Tag - 14" Elm (Removed)
Significant, No Tag - 6" Elm (Kept)
Significant, No Tag - 6" Oak (Kept)
Significant, No Tag - 6" Oak (Kept)
Significant, No Tag - 10" Willow (Kept)
Significant, No Tag - 10" Hackberry (Kept)
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Significant, No Tag - 6" Elm (Kept)
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Significant, No Tag - 10" Hackberry (Kept)

NOTES

~Provide mulch tree ring for all trees outside of beds. Install per detail #1 on specifications sheet. Provide bubbler. Mulch is in addition to quantities listed.
~Contractor is responsible for verifying all plant and material quantities.
~Irrigation sleeves shall be run to all landscaped areas prior to concrete pours
~Drip irrigation in all beds, & spray irrigation in all lawn areas.

CITY OF SAN ANTONIO PLAN REVIEW DEVELOPMENT SERVICES DEPT

0 20 40 60 feet
SCALE: 1" = 20'

NORTH

Design By: Will Blair
Drawn By:
Date: 1/22/13
Revisions: 3/29/13, 9/27/13

William S. Blair
Landscape Architect
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PO Box 82514
Austin, TX 78708

BLAIR-HILL LANDSCAPE ARCHITECTS

B-H LANDSCAPE ARCHITECTS

REGISTERED LANDSCAPE ARCHITECT STATE OF TEXAS

Project Name and Address
North Loop Retail Center
226 & 238 Texas Loop
San Antonio, TX 78221

Sheet Title
Landscape Plan

Landscape Sheet
17
OF 25

#1854760

LANDSCAPE CALCULATIONS

MANDATORY REQUIREMENTS

BUFFER- Type * *	REQUIRED	PROVIDED
Length	N/A	--lf
Canopy Trees	--	--
Understory Trees	--	--
Large Shrubs	--	--
Medium Shrubs	--	--
Small Shrubs	--	--
SCREENING	N/A	--lf
PARKING LOT SHADING	10,982sf	11,400sf
Total Shade Area (25% of parking lot)		
Existing Trees: (10,500sf X 100%= 10,500sf)		
Island/Peninsula Trees: (1 X 1200sf X 75%=900sf)		
Adjacent Parking Trees: (-- x 1200sf X 50%=--sf)		
Total Provided: 11,400sf		

ELECTIVE REQUIREMENTS

TOTAL ELECTIVE POINTS	REQUIRED POINTS 70pts	PROVIDED POINTS 80pts

	REQUIRED	PROVIDED	POINTS
NO STREET YARD PARKING	--	--	--pts
TREE PRESERVATION			30pts
4-6" DBH (-- X 3ea=--)			
6-12" DBH (10 X 4ea=38)			
12-18" DBH (-- X 6ea=--)			
18"+ DBH (1 X 8ea=8)			
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STREETSCAPE PLANTING STANDARDS

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(--lf frontage / 50=--trees)		
Medium Street Trees	N/A	--
(--lf frontage / 30=--trees)		

TREE CALCULATIONS

TREE PRESERVATION

FINAL TREE CANOPY COVER (25% of site)	REQUIRED 22,223sf	PROVIDED 42,900sf
Existing Trees: 10,500sf		
Proposed Trees: 32,400sf		
SIGNIFICANT TREES RETAINED	40%	55%
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TREE MITIGATION

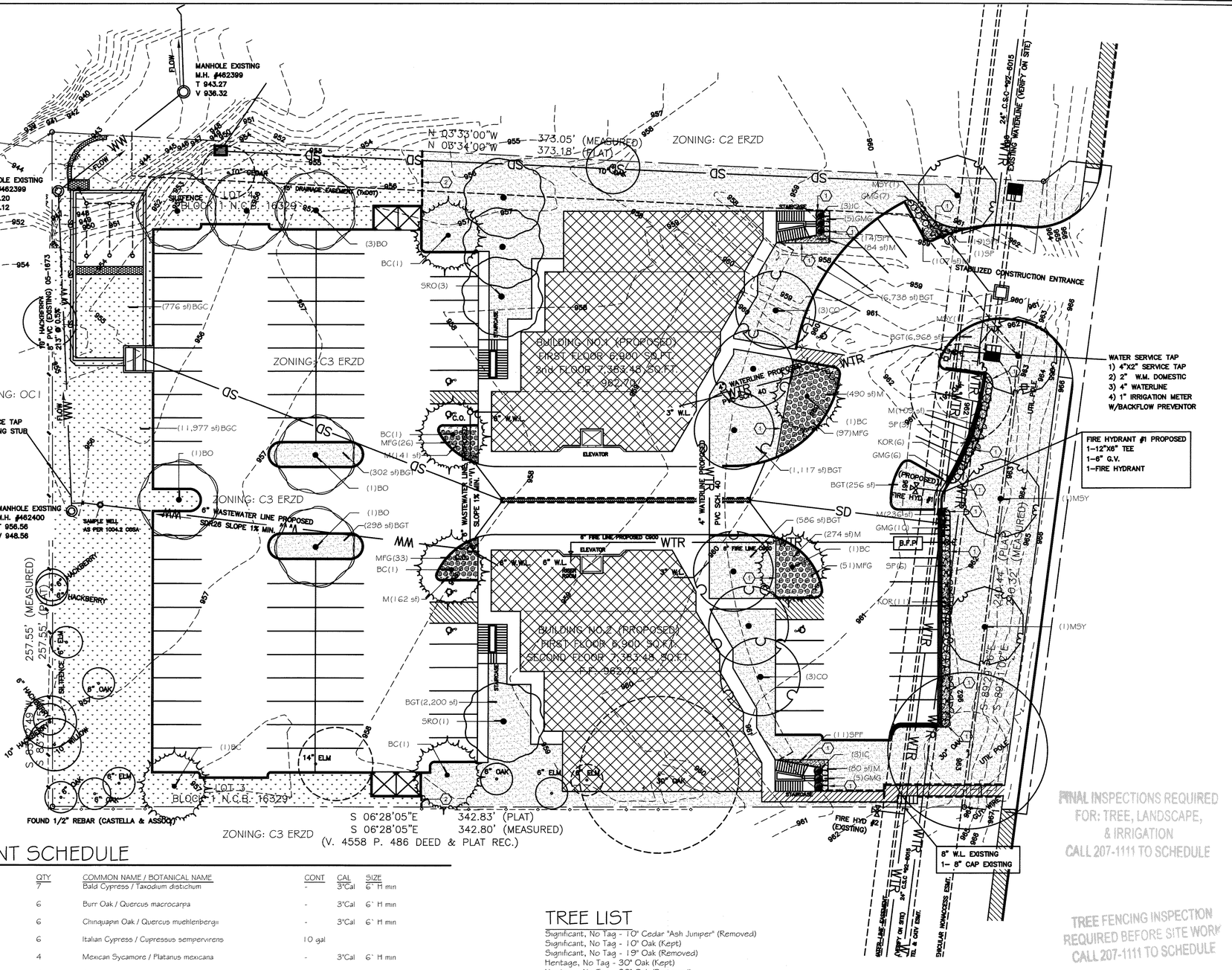
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NOTES

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~Contractor is responsible for verifying all plant and material quantities.
~Irrigation sleeves shall be run to all landscaped areas pnor to concrete pours
~Drip irrigation in all beds, & spray irrigation in all lawn areas.

FINAL INSPECTIONS REQUIRED FOR: TREE, LANDSCAPE, & IRRIGATION CALL 207-1111 TO SCHEDULE

TREE FENCING INSPECTION REQUIRED BEFORE SITE WORK CALL 207-1111 TO SCHEDULE

0 20 40 60 feet
SCALE: 1" = 20'

NORTH

Design by: Will Blair
Date: 1/2/13
Revisions: 2/28/13, 9/23/13

William S. Blair
Landscape Architect
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BLAIR-HILL LANDSCAPE ARCHITECTS

B-H LANDSCAPE ARCHITECTS

REGISTERED LANDSCAPE ARCHITECT STATE OF TEXAS

Project Name and Address
North Loop Retail Center
226 & 238 Texas Loop
San Antonio, TX 78221

Sheet Title
Landscape Plan

Landscape Sheet
17
OF 25

#1854760

LANDSCAPE PLANTING SPECIFICATIONS

1) Guarantee - All labor, materials and plants will be guaranteed for a period of twelve (12) months after the final acceptance of work by Owner. All plants that have died or are unhealthy shall be replaced no later than 30 days from the anniversary date of the final acceptance. This guarantee does not apply to plant material that dies due to abnormal freezes, hail, abnormal high winds, or other acts of God, vandalism or lack of normal maintenance and watering. This guarantee does not apply to annual plantings.
2) Contractor is to verify all site dimensions and layout prior to the commencement of landscape construction. Any discrepancies between the drawings and the actual site conditions shall be brought to the attention of the owner's representative immediately.
3) Contractor is responsible for verification of the location of all underground utilities, repair to said utilities as a result of the work of the contractor shall be the responsibility of the contractor. Refer to the drawing for any additional information.
4) Contractor is responsible for maintaining positive drainage in all shrub and turf planting areas.
5) Tree pits are to be the same depth as the root ball and 24" wider. Prior to planting the
tree pit should be filled with water to check for good drainage. If water does not drain the Contractor should check with the Landscape Architect to relocate the tree.
6) Trees should be positioned in the center of the tree pits, back filled with soil that was excavated from the pit until the surface is level with the surrounding area and the crown of the plant is at the finished grade. Build a water basin around the tree (36" dia.). Water until planting pit is soaked and soil has settled. Add soil necessary to bring soil level flush with surrounding ground. Fill the basin with three (3) inches of compost.
7) All plant material shall conform to the standards of the latest edition of "American Standard for Nursery Stock" by The American Association of Nurserymen and "Grades and Standards" by The Texas Association of Nurserymen. A plant shall be dimensioned as it stands in its natural position. All plants shall be at least the minimum size indicated. Larger stock is acceptable at no additional cost, and providing that the larger plants will not be cut back to size indicated.
8) It is the landscape contractor's responsibility to provide plants free of disease or pests.
9) Space specified quantity of plant materials to evenly fill designated areas, adjusting spacing indicated on the drawings as required. Landscape architect or owner to have final approval of locations of all trees, shrubs and groundcover beds.
10) Contractor is responsible for removing all clods, rocks, concrete, trash and any other debris from beds prior to adding soil ix or plant material.
11) All planting beds should have three (3) inches of compost tilled into them to a depth of six (6) inches. A three (3) inch layer of shredded hardwood bark mulch should be applied to all beds after planting is completed. Four (4) inch pots and ground cover may be planted through the mulch.
12) Contractor is responsible for removal of trash and repair of hazardous conditions (tools, open holes, et.) on a daily basis by the end of the work day.
13) Water all plantings in bed areas thoroughly on a daily basis until final acceptance.
14) Steel edging shall be 3/16" x 4" landscape edging as manufactured by Ryerson, or equal, dark green and furnished with steel stakes. Install edging in smooth curves free of kinks. Final height of edging to be 1" above height of soil mat of sod.
15) To prepare turf areas treat them with a selective herbicide two weeks prior to sodding or seeding. Then rake area to remove stones, sticks and other debris. Add two (2) inches of topsoil to the turf area. Rake area to a finish grade (1" below walks and curbs).
16) If sodding is to take place the sod should be gathered and planted within a 48 hour period. Lay the sod to form a solid mass with tight fitting joints. Butt ends and sides of sod and offset joints in adjacent courses. Roll sod to ensure good contact with soil. If planting on a slope be sure to lay courses parallel to the contours and secure sod with pins if necessary. Site preparation and maintenance will be the same for hydromulching.
17) Water sod daily so as to not allow turf blades to wilt. If necessary water twice per day.
18) Apply slow release fertilizer 15-15-15 or equal at a rate of 2 lbs. per 100 s.f. to all turf or planted areas.
19) Contractor shall keep all construction areas and public streets free from accumulation of waste material. Upon completion of construction and prior to final approval contractor shall thoroughly clean the site of all trash, spilled soil, and litter, etc. that has resulted from landscape construction operations. Repair all damage to finish grade including tailings from excavations, wheel ruts, etc. caused from construction. All debris, trash and excess materials and equipment shall be removed from the site prior to final acceptance.
20) Remove all tags, ribbons and wires from all newly installed plant material.

LANDSCAPE MAINTENANCE REQUIREMENTS

A) All required landscaping, irrigation systems, fences, walls, berms, vegetation and other landscape components shall be maintained by the owner or agent in a healthy, safe and operating condition.
B) Maintenance practices shall consist of all regular and normal maintenance operations of landscaping including, but not limited to, weeding, irrigation, fertilizing, pruning, mowing and litter pick-up. Plant material that exhibits severe levels of insect or pest infestation, disease and/or damage, shall be appropriately treated, and all dead plant material shall be removed and replaced with living plant material where required according to the city approved plan for the site.
C) Street right-of-way between a property line and curb or street pavement adjoining the property shall be maintained by the adjacent landowner.
D) It shall be the responsibility of the owner to maintain and properly irrigate all landscaping required by this section. Failure to replace dead or diseased plant material within 30 days of written notification by the city shall constitute a violation of the zoning ordinance.
E) It shall be unlawful for any person to damage required landscaping through tree topping, over pruning or chemical poisoning. It shall be an affirmative defense that a maintenance/pruning plan was approved by the zoning administrator and that the work was performed in compliance with said approved plan. In the event that required landscaping has been so severely damaged due to tree topping, over pruning or chemical poisoning that it has died, the developer/owner shall replace the landscaping within 45 days of written notice from the city.

TREE PROTECTION NOTES

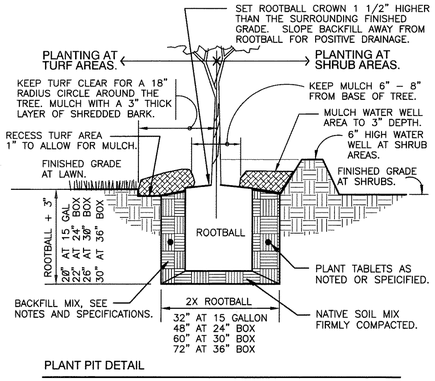
1. A root protection zone will be established around each tree or any vegetation to be preserved to meet the landscape or tree preservation ordinances. The root protection zone shall be an area defined by the radius extending outward from the trunk of the tree a distance of one (1) linear foot for each inch diameter inch at breast height (4.5 ') of the tree. A 10-inch diameter tree will have a 10 foot radius root protection zone.
2. No work shall begin where tree protection fencing has not been completed and approved. Tree protection fencing shall be installed, maintained and repaired by the contractor during construction. The fencing will be a minimum of 4' height.
3. All roots larger than one-inch in diameter are to be cut cleanly and oak wounds painted within 30 minutes.
4. Exposed roots shall be covered at the end of the work day using techniques such as covering with soil, mulch or wet burlap.
5. No equipment, vehicles or materials shall be operated or stored within the root protection zone. No clean-out areas will be constructed so that the material will be in or migrate to the root protection zone.
6. No grade change more than 3" is allowed within the root protection zone.
7. Roots or branches in conflict with construction shall be cut cleanly according to proper pruning methods. All oak wounds shall be painted within 30 minutes to prevent oak wilt infection.
8. Any tree removal shall be approved by the city arborist (207-8053).
9. Trees which are damaged or lost due to the contractor's negligence during construction shall be mitigated.
10. Trees must be maintained in good health throughout the construction process. Maintenance may include watering the root protection zone and or washing foliage.
11. No wires, nails or other materials may be attached to protected trees.

IRRIGATION SPECIFICATIONS

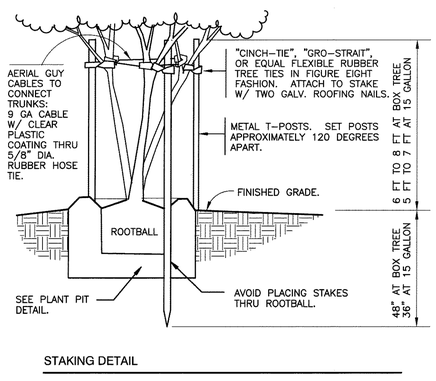
Landscaped areas shall be irrigated with a system that is suitable for the type of plantings installed. Where an irrigation system is required, the irrigation system shall comply with the requirements of 30 TAC chapter 344, §§ 344.72 –344.77. An in ground irrigation system consisting of water lines, water emitters and a controller is required to have a separate water service if the San Antonio Water System is the purveyor. In addition to the above irrigation requirements the following is required:

A. Design requirements:
  1. Pressure
    ii. If static pressure exceeds design pressure by 15 PSI or more in any zone a flow control device shall be installed.
    iii. Pressure at any point within a zone shall not vary by more than 10% from the design sprinkler operating pressure.
  2. Provide separate zones for:
    i. Turf
    ii. Plants with dissimilar water requirements
    iii. Areas with greater or lesser sun exposures
    iv. Slopes from flat/level areas (topographic information is required for zoning for slope and flat/level area design).
  3. Sprinkler head spacing
    i. Head spacing shall not exceed 50% of diameter
    ii. Spacing shall make allowance for Local wind conditions
    iii. Trim perimeters with correct arc and radii selection to eliminate water thrown onto non-landscaped areas
    iv. Show radius/diameter and arc of coverage of a representative number of each type of sprinkler head
  4. Landscape water schedule - produce a water schedule for the landscape at a minimum of 80% ET (evapotranspiration) as determined by the Local ET.

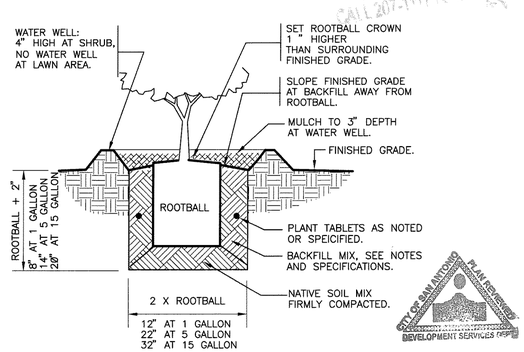
B. Equipment
  1. Controller requirements
    i. on/off rain switch or other rain shut off device that does not alter program
    ii. Multiple programming capacity
    iii. Controllers capable of a minimum of 3 cycles per program
  2. Valves: Flow control devices on all remote control valves (including a master control valve).
  3. Sprinklers
    i. Use of low-angle heads is encouraged.
    ii. Pop-up sprinklers and shrub risers will be at a height to clear turf, trees, shrubs, other planting and objects such as fences allowing no obstruction of spray pattern.
    iii. Pop-up type shrub risers should be used in areas where pedestrians/auto traffic may occur. Drip irrigation should be used in areas between the curb and sidewalk and parking lot



1 TREE PLANTING MULTI-STAKE
1" = 1'-0"



STAKING DETAIL



2 SHRUB PLANTING
1" = 1'-0"

FENCING INSPECTION REQUIRED BEFORE SITE WORK CALL 207-1111 TO SCHEDULE
TREE INSPECTIONS REQUIRED FOR LANDSCAPE, IRRIGATION CALL 207-1111 TO SCHEDULE

Drawn by: Will Blair
Date: 1/2/13
Revisions: 7/29/13, 9/27/13
Company Name and Address
William S. Blair
Landscape Architect
Cert. # 2741
(512) 589-7873
Will@B-HLA.com
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PO Box 82514
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BLAIR-HILL LANDSCAPE ARCHITECTS
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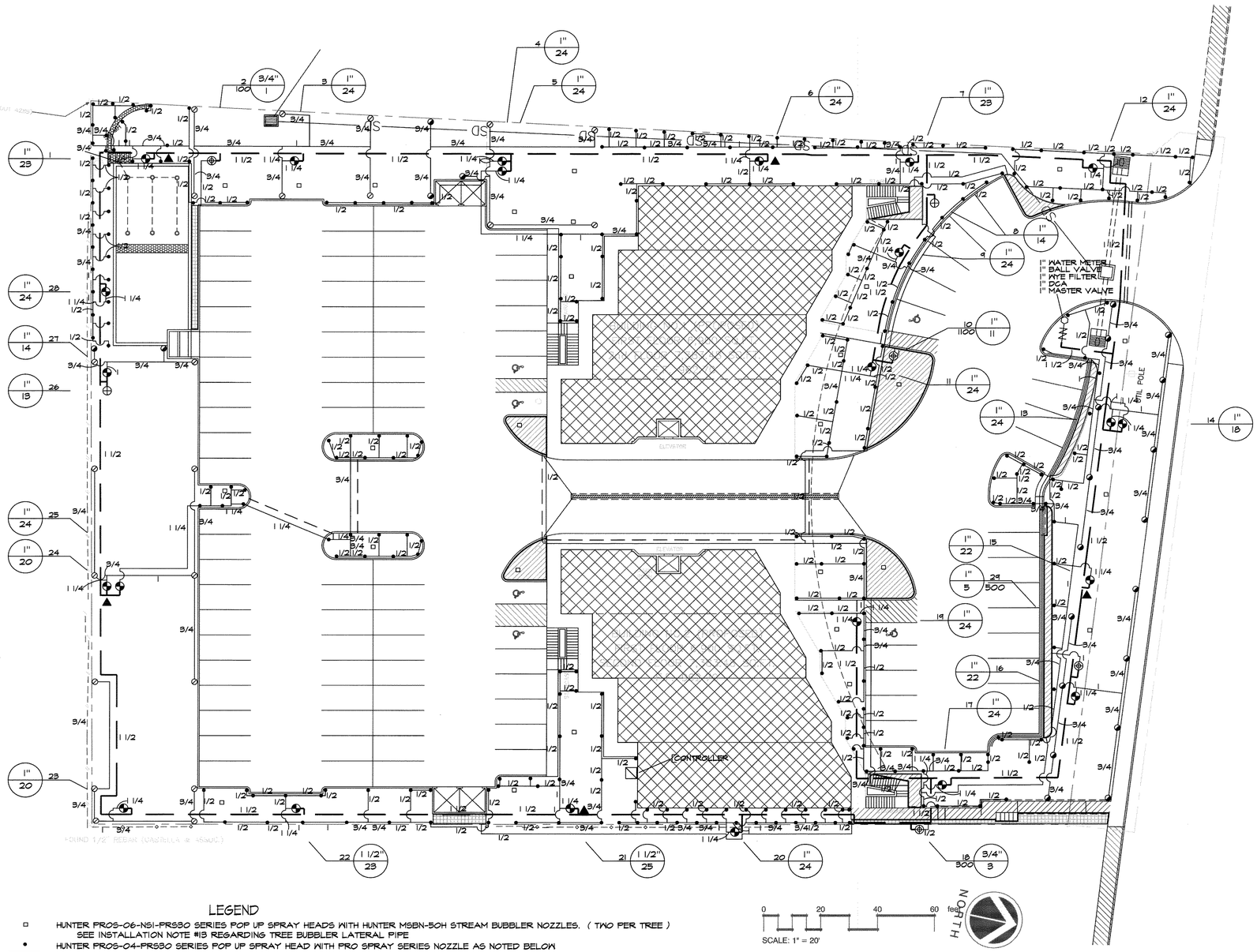
REGISTERED LANDSCAPE ARCHITECT STATE OF TEXAS

Project Name and Address
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226 & 238 Texas Loop
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Sheet Title
Landscape Specifications

Landscape Sheet
18
OF 25

#1854760



LEGEND

- HUNTER PROS-06-NSI-PRS30 SERIES POP UP SPRAY HEADS WITH HUNTER MSBN-50H STREAM BUBBLER NOZZLES. (TWO PER TREE)
  SEE INSTALLATION NOTE #13 REGARDING TREE BUBBLER LATERAL PIPE
- HUNTER PROS-04-PRS30 SERIES POP UP SPRAY HEAD WITH PRO SPRAY SERIES NOZZLE AS NOTED BELOW
- NETAFIM TECHLINE CV SERIES DRIP TUBE IN SHRUB BED INSTALLED AT 2" DEPTH
  SEE INSTALLATION NOTE #16 REGARDING DRIP TUBE LAYOUT IN SHRUB BEDS.
- NETAFIM TECHLINE CV SERIES DRIP TUBE IN NARROW TURF AREAS INSTALLED AT 4" DEPTH
  SEE INSTALLATION NOTE #17 REGARDING DRIP TUBE LAYOUT IN TURF.
- HUNTER P5P ULTRA, ADJUSTABLE ARC 4" POP UP ROTARY HEAD, PART CIRCLE, #2.5 BLUE NOZZLE UNLESS NOTED OTHERWISE
- HUNTER P5P ULTRA, ADJUSTABLE ARC 4" POP UP ROTARY HEAD, PART CIRCLE, #4.0 BLUE NOZZLE UNLESS NOTED OTHERWISE
- HUNTER ICV SERIES ELECTRIC REMOTE CONTROL VALVE
- HUNTER ICV SERIES ELECTRIC REMOTE CONTROL, "TREE BUBBLER ZONE" VALVE
  SEE INSTALLATION NOTE #13 REGARDING TREE BUBBLER LATERAL PIPE
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- 1" IRRIGATION WATER METER AND TAP
- HUNTER IC-3000-M SERIES AUTOMATIC CONTROLLER WITH WRFC WIRELESS RAIN / FREEZE SENSOR
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- ONE 4" ONE 3" CLASS 200 SLEEVE PIPES
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Design By: James Pole
Date: 1/2/13
Revisions:

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BLAIR-HILL LANDSCAPE ARCHITECTS

B—H LANDSCAPE ARCHITECTS

Consultant Seal

STATE OF TEXAS JAMES POLE 658 LICENSED IRRIGATOR
07 / 02 / 2013

Project Name and Address

North Loop Retail Center
226 & 238 Texas Loop
San Antonio, TX 78221

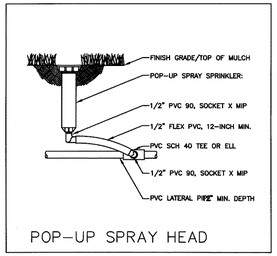
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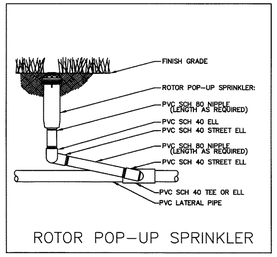
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19
OF 25

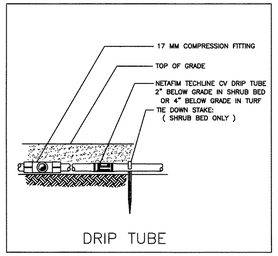
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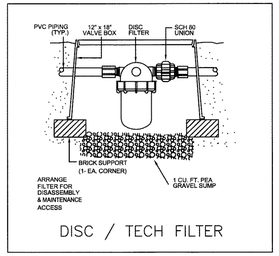
POP-UP SPRAY HEAD



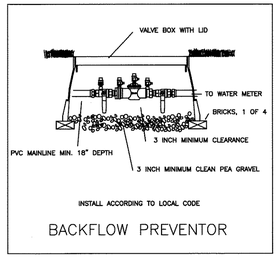
ROTOR POP-UP SPRINKLER



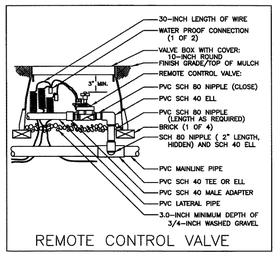
DRIP TUBE



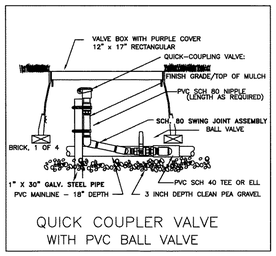
DISC / TECH FILTER



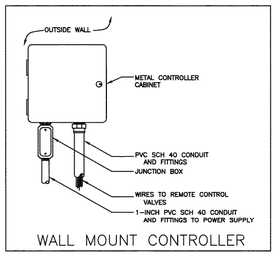
BACKFLOW PREVENTOR



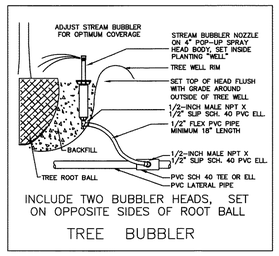
REMOTE CONTROL VALVE



QUICK COUPLER VALVE WITH PVC BALL VALVE

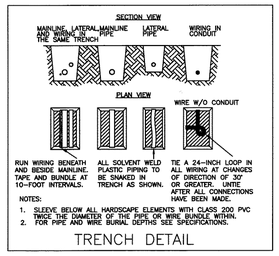


WALL MOUNT CONTROLLER

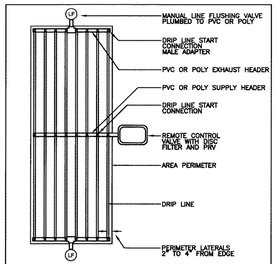


INCLUDE TWO BUBBLER HEADS, SET ON OPPOSITE SIDES OF ROOT BALL

TREE BUBBLER



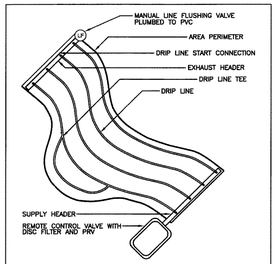
TRENCH DETAIL



SUPPLY AND EXHAUST HEADERS SHALL BE CLASS 200 PVC PIPE, OF THE SAME DIAMETER AS THE ZONE VALVE SIZE.

USE DRIP TUBE FOR SUPPLY AND EXHAUST HEADERS ON GRIDS WITH FLOW SMALLER THAN 5 GPM ONLY.

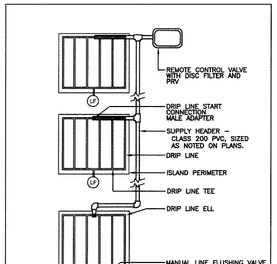
DRIP CENTER FEED LAYOUT



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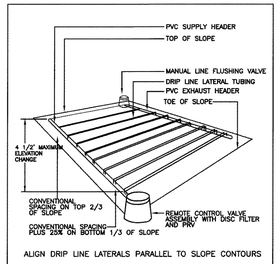
USE DRIP TUBE FOR SUPPLY AND EXHAUST HEADERS ON GRIDS WITH FLOW SMALLER THAN 5 GPM ONLY.

CURVED AREA DRIP LAYOUT



USE DRIP TUBE FOR SUPPLY AND EXHAUST HEADERS ON GRIDS WITH FLOW SMALLER THAN 5 GPM ONLY.

DRIP ISLAND LAYOUT

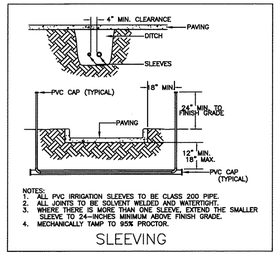


ALIGN DRIP LINE LATERALS PARALLEL TO SLOPE CONTOURS

SUPPLY AND EXHAUST HEADERS SHALL BE CLASS 200 PVC PIPE, OF THE SAME DIAMETER AS THE ZONE VALVE SIZE.

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DRIP SLOPE FEED LAYOUT



SLEEVING

WATER BUDGET

CONSTRUCTION PLANS SHALL INCLUDE A LAMINATED COPY INCLUDING THE FOLLOWING INFORMATION:
GALLONS PER SITE APPLICATION EQUALS 10,865
AVERAGE PRECIPITATION RATE EQUAL 1.5 INCHES PER HOUR
40 MINUTES WATERING EQUALS 1" PRECIPITATION
FIRST THREE MONTHS SCHEDULE FOR LANDSCAPE ESTABLISHMENT:

WATERING OF NEWLY PLANTED SOD, SHRUBS, GROUND COVER, AND FLOWERS SHOULD BE EVERY DAY FOR TWO WEEKS.
SET ROTARY TURF ZONES FOR 20 MINUTES, TURF SPRAY ZONES FOR 15 MINUTES, SHRUB ZONES FOR 10 MINUTES AND BUBBLER ZONES FOR 10 MINUTES.
WATER NEW SEEDED TURF AS FOLLOWS: DAMPEN SURFACE TO THE POINT OF RUN-OFF ONCE PER DAY FOR 14 DAYS.
AFTER GERMINATION WATER TO THE POINT OF SURFACE RUN-OFF EVERY OTHER DAY FOR TWO WEEKS.
REDUCE ABOVE WATERING TO TWICE PER WEEK FOR TWO WEEKS, THEN ONCE PER WEEK AFTERWARD.

ESTABLISHED LANDSCAPE WATERING SCHEDULE:

CONTROLLER STATIONS	NUMBER WATER CYCLES PER WEEK ✳ JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.
ALL CONTROLLER ZONES	0	0	1	2	3	3	4	3	3	2	0	0
TOTAL ESTIMATED WATER USE (GALLONS)	0	0	43,460	86,920	130,380	130,380	173,840	130,380	130,380	86,920	0	0

✳ EACH WATERING CYCLE SHALL INCLUDE 15 MINUTES PER TURF SPRAY ZONE, 30 MINUTES PER ROTARY ZONE, 25 MINUTES PER DRIP ZONE AND 10 MINUTES FOR BUBBLERS..

THE ABOVE SCHEDULES ARE TO BE USED AS A GUIDE. PRECISE REQUIREMENTS WILL VARY BASED UPON SITE AND WEATHER CONDITIONS.
LANDSCAPE ESTABLISHMENT WILL REQUIRE DAILY MONITORING OF THE PLANT MATERIAL AND SOIL MOISTURE LEVEL CONDITIONS.

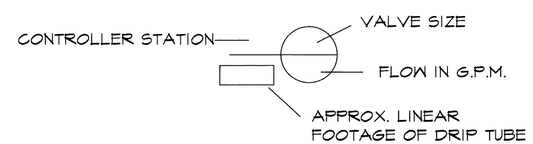
EMERGENCY WATER SHUT-OFF VALVES ARE INCLUDED AT THE BACKFLOW PREVENTION DEVICE AS LOCATED ON THE PLAN.

TRENCHING NOTE

NO CUTTING, FILLING, TRENCHING, ROOT DISTURBANCE, SOIL DISTURBANCE, OR CONSTRUCTION IMPACTS SHALL OCCUR CLOSER TO THE TRUNK THAN 1/2 THE RPZ RADIUS (UDC 35-523(I)(I) UNLESS DONE BY HAND.

City of San Antonio Plans Reviewer;

This plan conforms to the irrigation design and equipment standards set out in 35-510J and 35-510C6.



INSTALLATION NOTES

1. COORDINATE IRRIGATION INSTALLATION WITH PLANTING PLAN AND SITE CONDITIONS TO PROVIDE COMPLETE COVERAGE WITH MINIMUM OVERSPRAY. THE IRRIGATION CONTRACTOR SHALL MAKE MINOR ADJUSTMENTS TO ENSURE PROPER COVERAGE AT NO ADDITIONAL COST TO THE OWNER.
2. THE IRRIGATION CONTRACTOR SHALL COMPLY WITH ALL LOCAL AND STATE MANDATED IRRIGATION ORDINANCES AND CODES, AND WILL SECURE ALL REQUIRED PERMITS. L.I.C. SHALL PAY ANY ASSOCIATED FEES UNLESS OTHERWISE NOTED. ALL LOCAL CODES SHALL PREVAIL OVER ANY DISCREPANCIES HEREIN AND SHALL BE ADDRESSED BEFORE ANY CONSTRUCTION BEGINS.
3. CONFIRM MINIMUM STATIC WATER PRESSURE OF 60 PSI AT THE HIGHEST ELEVATION OF THE SYSTEM LIMITS, AND MAXIMUM STATIC WATER PRESSURE OF 90 P.S.I. AT THE LOWEST ELEVATION OF THE SYSTEM LIMITS AT LEAST 7 DAYS BEFORE BEGINNING WORK. IF STATIC WATER PRESSURE IS OUTSIDE THE RANGE STATED ABOVE, DO NOT PROCEED UNTIL DIRECTED BY THE LANDSCAPE ARCHITECT.
4. LATERAL PIPE SHALL BE INSTALLED AT A MINIMUM DEPTH OF 12 INCHES. MAINLINE PIPE AND WIRES SHALL BE INSTALLED AT A MINIMUM DEPTH OF 18 INCHES. NO MACHINE TRENCHING SHALL BE PERMITTED WITHIN EXISTING TREE ROOT ZONES. WHEN HAND - TRENCHING WITHIN EXISTING TREE ROOT ZONES, NO ROOTS LARGER THAN 1" DIAMETER SHALL BE CUT.
5. UNSLEEVED PIPES MAY BE SHOWN UNDER PAVEMENT FOR GRAPHIC CLARITY ONLY. INSTALL THESE PIPES IN ADJACENT LANDSCAPED AREAS.
6. ELECTRIC POWER SHALL BE PROVIDED WITHIN FIVE FEET OF CONTROLLER LOCATION BY GENERAL CONTRACTOR. L.I.C. TO PROVIDE FINAL HARD-WIRE TO CONTROLLER.
7. 24 VOLT VALVE WIRE SHALL BE A MINIMUM OF #14 GAUGE, U.F. APPROVED FOR DIRECT BURIAL, SINGLE CONDUCTOR "IRRIGATION WIRE". WIRE SPLICES SHALL INCLUDE DBY CONNECTORS AS MANUFACTURED BY 3M COMPANY. ALL FIELD SPLICES SHALL BE LOCATED IN A ROUND VALVE BOX OF SUFFICIENT SIZE TO ALLOW INSPECTION.
8. VALVE BOXES SHALL BE INSTALLED FLUSH WITH GRADE, SUPPORTED BY BRICKS IF NEEDED, WITH 3 INCHES OF CLEAN PEA GRAVEL LOCATED BELOW THE VALVE. USE 12" x 17" RECTANGULAR VALVE BOXES WITH PURPLE LID FOR QUICK COUPLING VALVES, AND 10" ROUND BOXES FOR ELECTRIC VALVES UNLESS NOTED OTHERWISE. D.C.A., WITH UPSTREAM BALL VALVE AND NYE FILTER SHALL BE BOXED AND LOCATED ACCORDING TO LOCAL CODE.
9. USE RIGID SCH. 80 PVC SWING JOINT ASSEMBLIES TO CONNECT ALL ROTARY HEADS AND QUICK COUPLERS.
10. ALL SPRAY HEADS SHALL BE CONNECTED WITH A 12" MINIMUM LENGTH OF 1/2" FLEX PVC. THE FLEX PVC SHALL BE SOLVENT WELDED TO SCHEDULE 40 PVC FITTINGS WITH WELD-ON #795 SOLVENT AND #P-70 PRIMER.
11. PROVIDE ONE QUICK COUPLER KEY WITH SWIVEL HOSE ELL FOR EVERY SIX Q.C. VALVES. (MINIMUM ONE SET).
12. CONTRACTOR IS TO CONTACT APPROPRIATE AUTHORITIES AND LOCATE ALL UTILITIES PRIOR TO CONSTRUCTION.
13. LATERAL PIPE TO TREE STREAM BUBBLER HEADS IS OMITTED FOR GRAPHIC CLARITY. CONNECT TREE BUBBLER HEADS TO VALVES AS SHOWN WITH CLASS 200 PVC PIPE SIZED TO ALLOW A MAXIMUM FLOW VELOCITY OF 5 FEET PER SECOND
14. THE PROPOSED LOCATIONS OF ALL ABOVE- GROUND EQUIPMENT INCLUDING BACKFLOW PREVENTORS, CONTROLLERS AND WEATHER SENSORS SHALL BE STAKED BY THE CONTRACTOR FOR APPROVAL BY THE LANDSCAPE ARCHITECT OR OWNER'S REPRESENTATIVE BEFORE THESE ITEMS ARE INSTALLED.
15. ALL HEADS SHALL BE INSTALLED A MINIMUM OF 4" FROM PAVEMENT EDGES. (6" OR GREATER WHERE REQUIRED BY LOCAL CODE) FINAL HEAD ADJUSTMENTS BY THE CONTRACTOR SHALL INCLUDE THE ADDITION OF CHECK VALVES WHERE NEEDED TO PREVENT EXCESSIVE LOW HEAD DRAINAGE. THE CONTRACTOR SHALL BUDGET FOR, AND INSTALL CHECK VALVES FOR UP 10 % OF THE TOTAL NUMBER OF HEADS WHEN NEEDED, WITH NO ADDITIONAL COST TO THE OWNER.
16. WHERE SHOWN ON THE PLANS, MASS SHRUB / GROUNDCOVER BEDS SHALL INCLUDE NETAFIM TECHLINE CV SERIES DRIP TUBE WITH PRE-INSTALLED .6 GPH DRIP EMITTERS AT 12" INTERVALS (TLCV6-12), INSTALLED IN CENTER-FED GRIDS WITH ROWS SPACED 18" APART. INDIVIDUAL DRIP TUBE RUNS SHALL NOT EXCEED 150 L.F. PVC LATERAL "TRUNK" LINES SHALL BE INSTALLED 10" DEEP. DRIP TUBE SHALL BE SET 2" BELOW FINISHED SOIL GRADE (NOT INCLUDING MULCH LAYER), SECURELY STAKED EVERY 18". NETAFIM #TLOSOMFV-I FLUSH VALVES SHALL BE INSTALLED AT THE FARTHEST POINTS FROM THE ZONE VALVE. USE 17 MM BARBED FITTINGS FOR DRIP LINE CONNECTIONS, SET THE MAXIMUM OPERATING PRESSURE AT 30 PSI. TECHLINE CV SHALL BE INSTALLED PERPENDICULAR TO SLOPE FACE. INSTALL TLCV IN-LINE CHECK VALVES FOR EVERY 4.5 FEET OF DRIP LINE ELEVATION CHANGE WITHIN THE ZONE. USE NETAFIM STAPLES (#TLS6) TO SECURE TUBING EVERY 18" EACH DRIP ZONE SHALL INCLUDE ONE MAINTENANCE "FLAG" WHICH SHALL CONSIST OF A 12" POP-UP SPRAY HEAD AND COMPLETELY CLOSED SPRAY NOZZLE. THE POP-UP HEAD SHALL BE CONNECTED TO THE DRIP ZONE PIPE, SET FLUSH WITH GRADE, AND LOCATED AT THE FARTHERST DISTANCE FROM THE DRIP VALVE ASSEMBLY. INSTALL THE "FLAG" HEAD ADJACENT TO EDGING OR IN LOW PLANTINGS FOR EASE OF VIEWING.

SPARSLEY SPACED, INDIVIDUAL SHRUB PLANTINGS MAY INCLUDE RAINBIRD #XBT-10 SINGLE-OUTLET EMITTERS OR RAINBIRD #XBT-10-6 MULTI-OUTLET EMITTERS INSTALLED AS DETAILED. PROVIDE MINIMUM TWO, 1 G.P.H. OUTLETS PER INDIVIDUAL SHRUB. SINGLE / MULTI-OUTLET EMITTERS MAY BE CONNECTED TO THE SAME DRIP ZONE VALVE WHICH SERVES ADJACENT DRIP TUBE GRIDS, UNLESS NOTED OTHERWISE.

17. WHERE SHOWN ON THE PLANS, SPECIFIC TURF AREAS SHALL INCLUDE NETAFIM TECHLINE CV SERIES DRIP TUBE WITH PRE-INSTALLED .6 GPH DRIP EMITTERS AT 12" INTERVALS (TLCV6-12), INSTALLED IN CENTER-FED GRIDS WITH ROWS SPACED 12" APART. INDIVIDUAL DRIP TUBE RUNS SHALL NOT EXCEED 150 L.F. PVC LATERAL "TRUNK" LINES SHALL BE INSTALLED 10" DEEP. DRIP TUBE SHALL BE SET 4" BELOW FINISHED SOIL GRADE. NETAFIM #TL050MF-I FLUSH FLUSH VALVES SHALL BE INSTALLED AT THE FARTHEST POINTS FROM THE ZONE VALVE. USE 17 MM BARBED FITTINGS FOR DRIP LINE CONNECTIONS, SET THE MAXIMUM OPERATING PRESSURE AT 30 PSI. TECHLINE CV SHALL BE INSTALLED PERPENDICULAR TO SLOPE FACE. INSTALL TLCV IN-LINE CHECK VALVES FOR EVERY 4.5 FEET OF DRIP LINE ELEVATION CHANGE WITHIN THE ZONE. EACH DRIP ZONE SHALL INCLUDE ONE MAINTENANCE "FLAG" WHICH SHALL CONSIST OF A 12" POP-UP SPRAY HEAD AND COMPLETELY CLOSED SPRAY NOZZLE. THE POP-UP HEAD SHALL BE CONNECTED TO THE DRIP ZONE PIPE, SET FLUSH WITH GRADE, AND LOCATED AT THE FARTHERST DISTANCE FROM THE DRIP VALVE ASSEMBLY. INSTALL THE "FLAG" HEAD ADJACENT TO EDGING OR IN LOW PLANTINGS FOR EASE OF VIEWING.

LEGEND

- HUNTER PROS-06-NSI-PRS30 SERIES POP UP SPRAY HEADS WITH HUNTER MSBN-50H STREAM BUBBLER NOZZLES. (TWO PER TREE) SEE INSTALLATION NOTE #13 REGARDING TREE BUBBLER LATERAL PIPE
- HUNTER PROS-04-PRS30 SERIES POP UP SPRAY HEAD WITH PRO SPRAY SERIES NOZZLE AS NOTED BELOW
- NETAFIM TECHLINE CV SERIES DRIP TUBE IN SHRUB BED INSTALLED AT 2" DEPTH SEE INSTALLATION NOTE #16 REGARDING DRIP TUBE LAYOUT IN SHRUB BEDS.
- NETAFIM TECHLINE CV SERIES DRIP TUBE IN NARROW TURF AREAS INSTALLED AT 4" DEPTH SEE INSTALLATION NOTE #17 REGARDING DRIP TUBE LAYOUT IN TURF.
- HUNTER PGP ULTRA, ADJUSTABLE ARC 4" POP UP ROTARY HEAD, PART CIRCLE, #2.5 BLUE NOZZLE UNLESS NOTED OTHERWISE
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Date: 7/2/13
Revisions:

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BLAIR-HILL LANDSCAPE ARCHITECTS

B—H LANDSCAPE ARCHITECTS

Consultant Seal

STATE OF TEXAS — JAMES POLE — 658 — LICENSED IRRIGATOR

07 / 02 / 2013

Project Name and Address

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226 & 238 Texas Loop
San Antonio, TX 78221

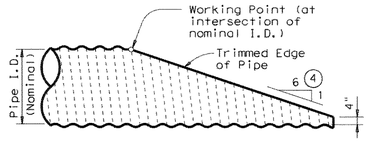
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Irrigation Details

Landscape Sheet

20 OF 25

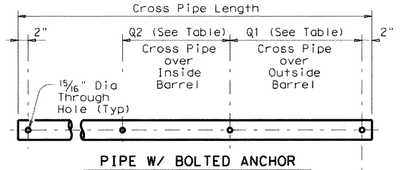
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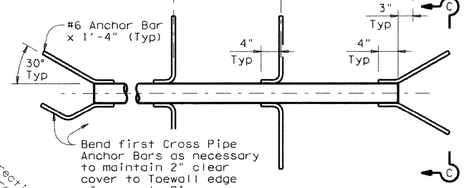
NOTE: All Cross Pipes, calculations, and dimensions are based on the pipe culverts mitered as shown in this detail. Alternate styles of mitered ends will require that appropriate adjustments be made to the values presented on this standard.

SIDE ELEVATION OF TYPICAL PIPE CULVERT MITER

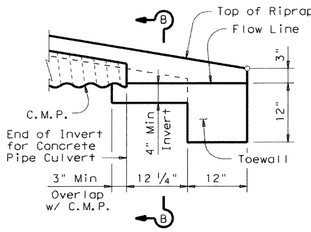
(Showing Corrugated Metal Pipe Culvert.)
(Details at Concrete Pipe Culvert are similar.)



PIPE W/ BOLTED ANCHOR

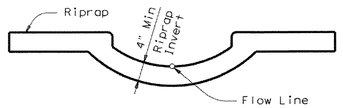


PIPE W/ ANCHOR BARS



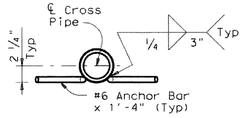
DETAIL "A"

(Showing Invert with Corrugated Metal Pipe Culvert. Concrete Pipe Culvert details are similar. Cross Pipes not shown for clarity.)



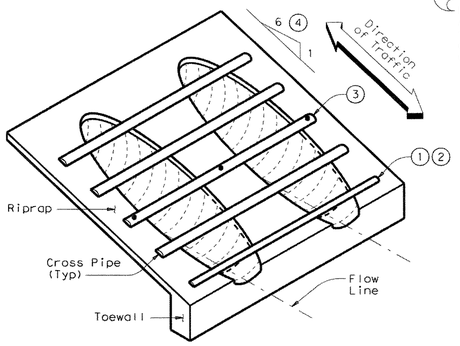
SECTION B-B

(Cross Pipes not shown for clarity.)

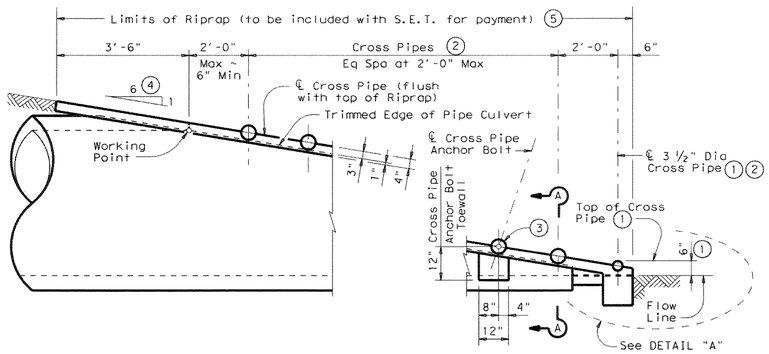


SECTION C-C

CROSS PIPE DETAILS

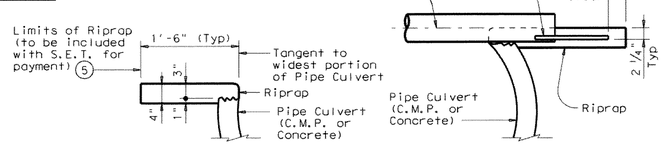


ISOMETRIC VIEW OF TYPICAL INSTALLATION



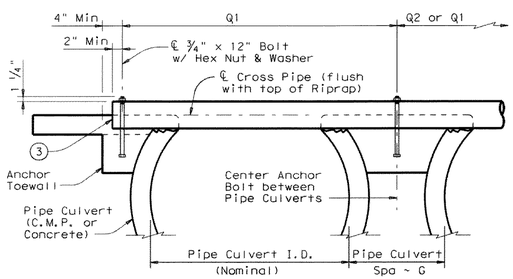
SIDE ELEVATION OF CAST-IN-PLACE CONCRETE

(Showing Concrete Pipe Culvert.)
(Details at Corrugated Metal Pipe Culvert are similar.)



SHOWING TYPICAL PIPE CULVERT & RIPRAP

SHOWING CROSS PIPE WITH ANCHOR BAR



SHOWING CROSS PIPE WITH BOLTED ANCHOR

SECTION A-A

CROSS PIPE LENGTHS, REQUIRED PIPE SIZES, & RIPRAP QUANTITIES (2)

Nominal Culvert I.D.	Conc Riprap (CY) (6)	Pipe Culvert Spa ~ G	Single Barrel ~ Q1	Multi-Barrel ~ Q1	Q2	Conditions for use of Cross Pipes	Cross Pipe Size
12"	0.6	9"	N/A	2'- 1"	1'- 9"	3 or more Pipe Culverts	3" Std (3.500" O.D.)
15"	0.7	11"	N/A	2'- 5"	2'- 2"		
18"	0.8	1'- 2"	N/A	2'-10"	2'- 8"		
21"	0.9	1'- 4"	N/A	3'- 2"	3'- 1"		
24"	0.9	1'- 7"	N/A	3'- 6"	3'- 7"		
27"	1.0	1'- 8"	N/A	3'-10"	3'-11"	3 or more Pipe Culverts	3 1/2" Std (4.000" O.D.)
30"	1.1	1'-10"	N/A	4'- 2"	4'- 4"	2 or more Pipe Culverts	
33"	1.2	1'-11"	4'- 2"	4'- 5"	4'- 8"	All Pipe Culverts	
36"	1.3	2'- 1"	4'- 5"	4'- 9"	5'- 1"	All Pipe Culverts	4" Std (4.500" O.D.)
42"	1.5	2'- 4"	4'-11"	5'- 5"	5'-10"		
48"	1.7	2'- 7"	5'- 5"	6'- 0"	6'- 7"	All Pipe Culverts	5" Std (5.563" O.D.)
54"	2.0	3'- 0"	5'-11"	6'- 9"	7'- 6"		
60"	2.2	3'- 3"	6'- 5"	7'- 4"	8'- 3"		
66"	2.4	3'- 3"	6'-11"	7'-10"	8'- 9"		
72"	2.7	3'- 4"	7'- 5"	8'- 5"	9'- 4"		

(1) The proper installation of the first Cross Pipe is critical for vehicle safety. The top of the first Cross Pipe must be placed at no more than 6" above the flow line.

(2) Size of Cross Pipes, except the first bottom pipe, shall be as shown in the PIPE SIZE table. The first bottom pipe shall be 3 1/2" Standard Pipe (4" O.D.).

(3) The third Cross Pipe from the bottom of the Culvert shall always be installed using a bolted connection. Care shall be taken to ensure that Riprap concrete does not flow into the Cross Pipe so as to permit disassembly of the bolted connection to allow cleanout access. At the Contractor's option, all other Cross Pipes may also be installed using the bolted connection details.

(4) Match Cross Slope as shown elsewhere in the plans. Cross Slope of 6:1 or flatter is required for vehicle safety.

(5) Riprap placed beyond the limits shown will be paid as Concrete Riprap in accordance with Item 432, "Riprap".

(6) Quantities shown are for one end of one reinforced Concrete Pipe Culvert. For multiple pipe culverts or for Corrugated Metal Pipe Culverts, quantities will need to be adjusted. Riprap quantities are for Contractor's information only.

GENERAL NOTES:

Cross Pipes are designed for a traversing load of 10,000 pounds at yield as recommended by Research Report 280-2F, "Safety Treatment of of Roadside Parallel-Drainage Structures", Texas Transportation Institute, March 1981.

Safety End Treatments shown herein are intended for use in those installations where out of control vehicles are likely to traverse the openings approximately perpendicular to the Cross Pipes.

Riprap and all necessary inverts shall be Concrete Riprap conforming to the requirements of Item 432, "Riprap".

Payment for riprap and toewall is included in the Price Bid for each Safety End Treatment.

Cross Pipes shall conform to the requirements of ASTM A53 (Type E or S, Grade B), ASTM A500 (Grade B), or API 5LX52.

Bolts and nuts shall conform to ASTM A307.

All steel components, except concrete reinforcing, shall be galvanized after fabrication. Galvanizing damaged during transport or construction shall be repaired in accordance with the specifications.

Texas Department of Transportation
Bridge Division

SAFETY END TREATMENT
FOR 12" DIA TO 72" DIA PIPE CULVERTS TYPE II ~ PARALLEL DRAINAGE

SETP-PD

FILE: setppdse.dgn	DN: GAF	CK: CAT	DW: JRP	CK: GAF
©TxDOT May 2005	DISTRICT	FEDERAL AID PROJECT		SHEET
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	COUNTY	CONTROL	SECT	JOB	HIGHWAY

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ACC:

STATE OF TEXAS
MIRZA TAHIR BAIG
82577
REGISTERED PROFESSIONAL ENGINEER

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY MIRZA TAHIR BAIG, P.E., #82577 ON 06/29/2013

FIRM REGISTRATION F-4951

Revision	Description	Date	Drawn
6	ISSUED FOR APPROVAL	06/29/13	
5	ISSUED FOR APPROVAL	05/22/13	
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CONSULTING CIVIL AND STRUCTURAL ENGINEERS
12710 RESEARCH BLVD., SUITE 380, AUSTIN, TX 78759 | TEL 512.238.6422 | FAX 512.258.8095

Project: NORTH LOOP RETAIL CENTER
226 & 238 TEXAS LOOP 1604
SAN ANTONIO, TEXAS 78232

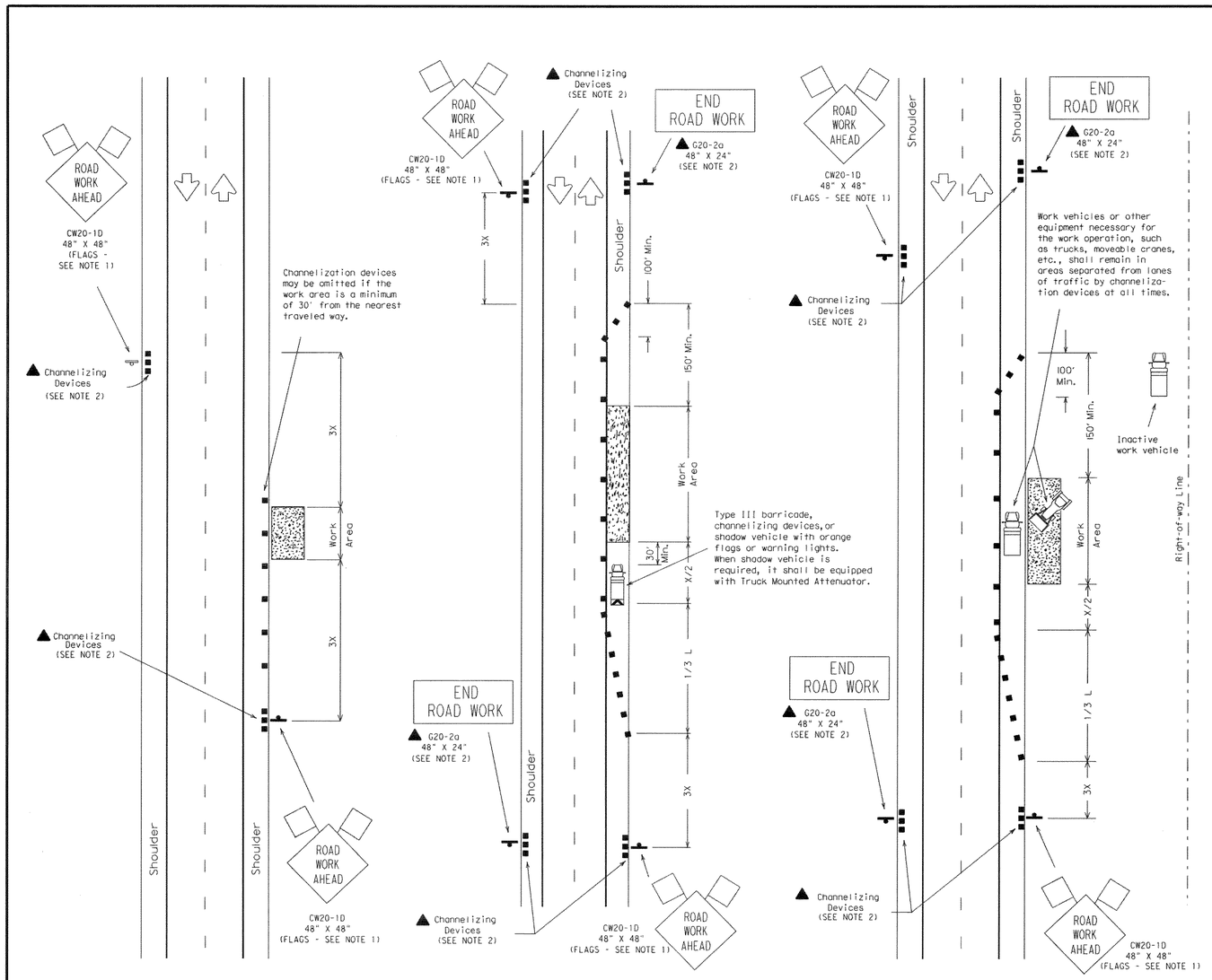
Title: TxDOT DRIVEWAY CULVERT

PROJECT 28001

SHEET 21 OF 26

CITY OF SAN ANTONIO PLAN REVIEWER DEVELOPMENT SERVICES DEPT

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TCP (1-1a)

Work Area Near Shoulder

TCP (1-1b)

Work Area on Shoulder

TCP (1-1c)

Work Vehicles on Shoulder

LEGEND

Type III Barricade ■ ■ Channelizing Devices Flag

Heavy Work Vehicle Truck Mounted Attenuator

Trailer Mounted Flashing Arrow Panel (G) Portable Changeable Message Sign (M)

Flagger Sign Post

Posted Speed ✕	Formula	Minimum Desirable Taper Lengths ✕✕ 10' Offset	11' Offset	12' Offset	Suggested Maximum Spacing of Device On a Taper	On a Tangent	Minimum Sign Spacing ✕ Distance
30	$L = \frac{WS^2}{60}$	150'	165'	180'	30'	60'-75'	120'
35		205'	225'	245'	35'	70'-90'	160'
40		265'	295'	320'	40'	80'-100'	240'
45	L=WS	450'	495'	540'	45'	90'-110'	320'
50		500'	550'	600'	50'	100'-125'	400'
55		550'	605'	660'	55'	110'-140'	500'
60		600'	660'	720'	60'	120'-150'	✕ 600'
65		650'	715'	780'	65'	130'-165'	✕ 700'
70		700'	770'	840'	70'	140'-175'	✕ 800'

✕ Conventional Roads Only

✕✕ Taper lengths have been rounded off.
L=Length of Taper (FT.) W=Width of Offset (FT.) S=Posted Speed (MPH)

TYPICAL USAGE:				
MOBILE	SHORT DURATION	SHORT TERM STATIONARY	INTERMEDIATE TERM STATIONARY	LONG TERM STATIONARY
	✓	✓		

GENERAL NOTES:

1. Unless otherwise stated in the plans, flags attached to signs are REQUIRED.
2. All traffic control devices illustrated are REQUIRED, except those denoted with the triangle symbol may be omitted when stated elsewhere in the plans.
3. On high speed facilities advance warning signs should be installed approximately 3X from the work area or from the beginning of a lane or shoulder taper. On low speed facilities the advance warning signs should be placed based on the "X" minimum distance.
4. Inactive work vehicles or other equipment should be parked near the right-of-way line and not parked on the paved shoulder.

Only pre-qualified products shall be used. A list of compliant products and their sources may be obtained by writing or faxing:

Standards Engineer
Traffic Operations Division - TE
Texas Department of Transportation
125 East 11th Street
Austin, Texas 78701-2483
Phone (512) 416-3335
Fax (512) 416-3161
E-mail TRF-STANDARD@mailgw.dot.state.tx.us

The requirement for shadow vehicles will be listed in the project GENERAL NOTES, Item 502, Barricades, Signs and Traffic Handling.

STANDARD PLANS
TEXAS DEPARTMENT OF TRANSPORTATION
Traffic Operations Division

TRAFFIC CONTROL PLAN

TCP(1-1)-98

© TxDOT December 1985	DN: - LR	CK: - MT	DW: - DN	CK: - MT	REQ NO.:
REVISIONS	STATE DISTRICT	FEDERAL REGION	FEDERAL AID PROJECT		SHEET
2-94		6			
8-95					
1-97	COUNTY		CONTROL	SECTION	JOB	HIGHWAY
4-98						

151

LEVELS DISPLAYED
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64

DATE:
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CK:
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FILE:

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FIRM REGISTRATION F-4951

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Project: NORTH LOOP RETAIL CENTER
226 & 238 TEXAS LOOP 1604
SAN ANTONIO, TEXAS 78232

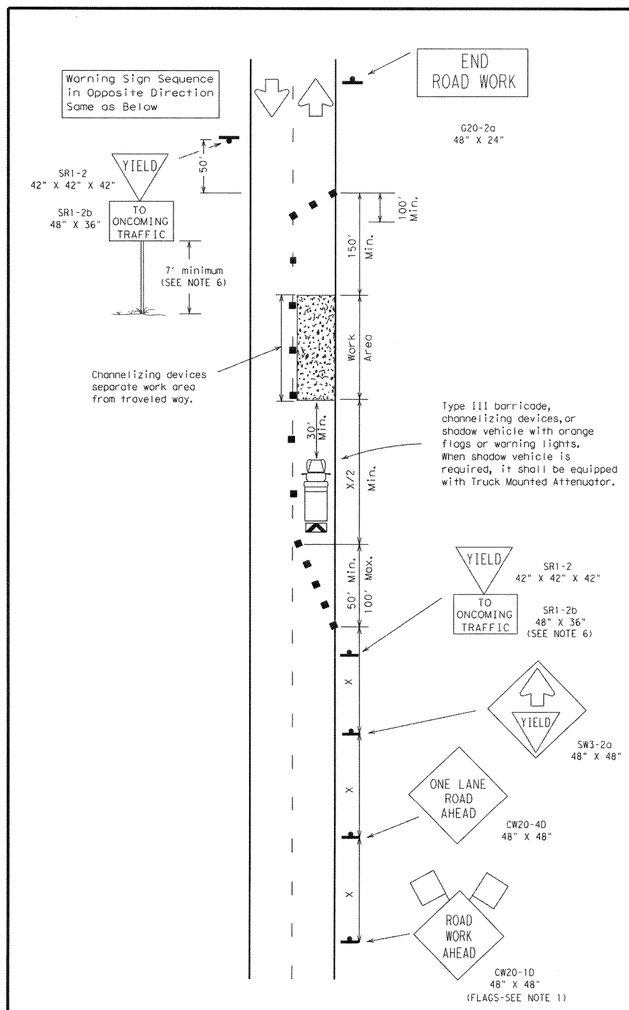
Title: TxDOT TRAFFIC CONTROL

PROJECT 28001

SHEET 22 OF 26

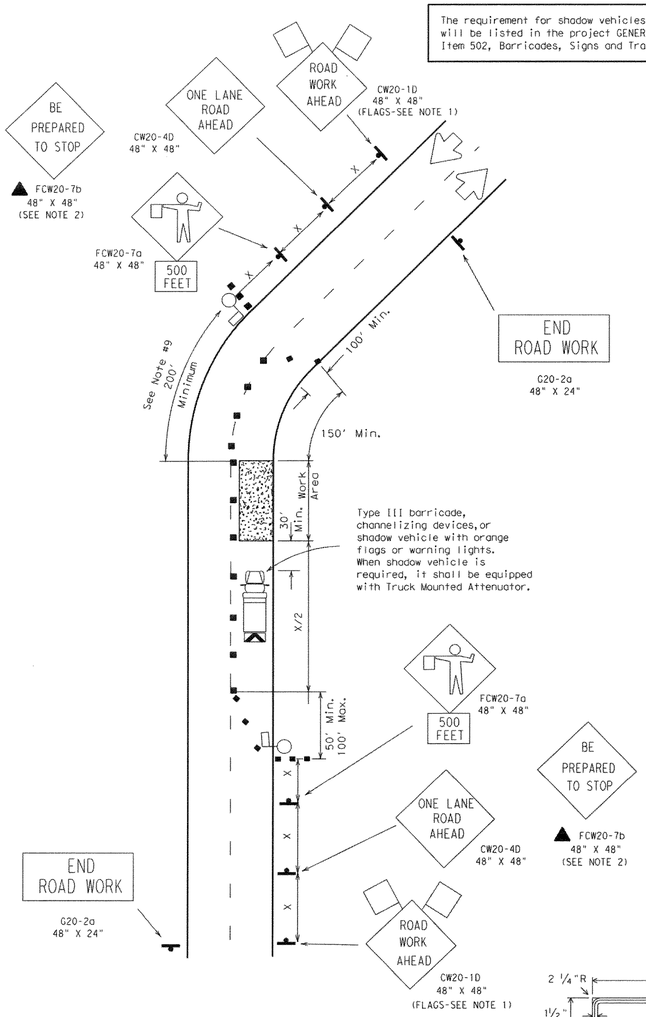
CITY OF SAN ANTONIO PLAN REVIEWED DEVELOPMENT SERVICES DEPT

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TCP (1-2a)

One Lane Closed
Adequate Field of View



TCP (1-2b)

One Lane Closed
Inadequate Field of View

LEGEND

Type III Barricade | Channelizing Devices | Flag
Heavy Work Vehicle | Truck Mounted Attenuator
Trailer Mounted Flashing Arrow Panel | Portable Changeable Message Sign
Flagger | Sign Post

Posted Speed ✳	Formula	Minimum Desirable Taper Lengths ✳✳ 10' Offset	11' Offset	12' Offset	Suggested Maximum Spacing of Device On a Taper	On a Tangent	Minimum Sign Spacing X Distance
30	$L=\frac{WS^2}{60}$	150'	165'	180'	30'	60'-75'	120'
35		205'	225'	245'	35'	70'-90'	160'
40		265'	295'	320'	40'	80'-100'	240'
45	L=WS	450'	495'	540'	45'	90'-110'	320'
50		500'	550'	600'	50'	100'-125'	400'
55		550'	605'	660'	55'	110'-140'	500'
60		600'	660'	720'	60'	120'-150'	✳600'
65		650'	715'	780'	65'	130'-165'	✳700'
70		700'	770'	840'	70'	140'-175'	✳800'

✳ Conventional Roads Only

✳✳ Taper lengths have been rounded off.
L=Length of Taper (FT.) W=Width of Offset (FT.) S=Posted Speed (MPH)

TYPICAL USAGE:				
MOBILE	SHORT DURATION	SHORT TERM STATIONARY	INTERMEDIATE TERM STATIONARY	LONG TERM STATIONARY
	✓	✓		

GENERAL NOTES:

1. Flags attached to signs are REQUIRED.
2. All traffic control devices illustrated are REQUIRED, except those denoted with the triangle symbol may be omitted when stated elsewhere in the plans.
3. The BE PREPARED TO STOP sign may be installed after the ONE LANE ROAD AHEAD sign, but proper sign spacing shall be maintained.
4. ROAD WORK AHEAD sign may be repeated if the visibility of the work zone is less than 1500'.

TCP(1-2a)

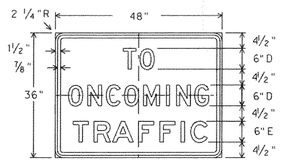
5. YIELD sign traffic control may be used on projects with approaches that have adequate sight distance. For projects in urban areas, work zones should be no longer than one half city block. In rural areas on roadways with less than 4000 ADT, work areas should be no longer than 400'.
6. YIELD TO ONCOMING TRAFFIC sign shall be placed on a support at a 7' minimum mounting height.

TCP(1-2b)

7. Flaggers should use two-way radios or other methods of communication to control traffic.
8. Length of work area should be based on the ability of flaggers to communicate.
9. Distance along curve of work area should be adequate length for motorists to identify and react to flagger signals.

Only pre-qualified products shall be used. A list of compliant products and their sources may be obtained by writing or faxing:

Standards Engineer
Traffic Operations Division - TE
Texas Department of Transportation
125 East 11th Street
Austin, Texas 78701-2483
Phone (512) 416-3335
Fax (512) 416-3161
E-mail TRF-STANDARD@mailgw.dot.state.tx.us



SR1-2b
48" x 36"

Letters - Black
Background - White
Reflective

STANDARD PLANS
TEXAS DEPARTMENT OF TRANSPORTATION
Traffic Operations Division

TRAFFIC CONTROL PLAN

TCP(1-2)-98

©TxDOT December 1985	DN-LR	CK:-MT	DW-DN	CK:-MT	REG. NO.:
REVISIONS 4-90 2-94 1-97 4-98	STATE DISTRICT	FEDERAL REGION 6	FEDERAL AID PROJECT		SHEET
	COUNTY		CONTROL	SECTION	JOB	HIGHWAY

LEVELS DISPLAYED
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63

DATE:
ACC:
FILE:
DN:
CK:
DW:
CK:

STATE OF TEXAS
MIRZA TAHIR BAIG
82577
REGISTERED PROFESSIONAL ENGINEER
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226 & 238 TEXAS LOOP 1604
SAN ANTONIO, TEXAS 78232

Title: TxDOT TRAFFIC CONTROL

PROJECT 28001

SHEET 23 OF 26

CITY OF SAN ANTONIO PLAN REVIEWED DEVELOPMENT SERVICES DEPT.

PRE DEVELOPED CONDITIONS

Return Event	In	Type	RNF ID
Pre100	10.0000	Synthetic Curve	TypeIII 24hr
Pre 25	7.5000	Synthetic Curve	TypeIII 24hr
Pre 10	6.0000	Synthetic Curve	TypeIII 24hr
Pre 5	5.0000	Synthetic Curve	TypeIII 24hr

Node ID	Type	Return Event	HYG Vol ac-ft	Trun	Qpeak hrs	Qpeak cfs	Max WSEL ft	Max Pond Storage ac-ft
DA #1	AREA	100	1.257		12.3000	10.29		
DA #1	AREA	25	.857		12.3000	7.11		
DA #1	AREA	10	.626		12.3000	5.21		
DA #1	AREA	5	.476		12.3000	3.97		
*OUT	JCT	100	1.257		12.3000	10.29		
*OUT	JCT	25	.857		12.3000	7.11		
*OUT	JCT	10	.626		12.3000	5.21		
*OUT	JCT	5	.476		12.3000	3.97		

TIME OF CONCENTRATION CALCULATOR

Segment #1: Tc: TR-55 Sheet

Manning's n	.3000
Hydraulic Length	300.00 ft
2yr, 24hr P	4.0000 in
Slope	.046300 ft/ft
Avg.Velocity	.19 ft/sec

Segment #1 Time: .4378 hrs

Segment #2: Tc: TR-55 Shallow

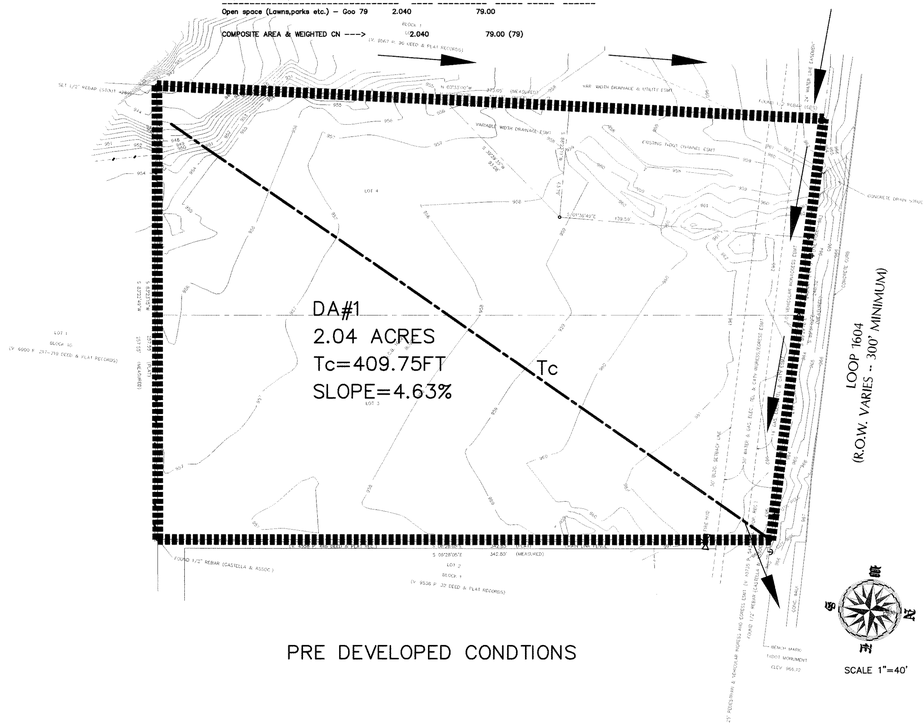
Hydraulic Length	109.75 ft
Slope	.046300 ft/ft
Unpaved	
Avg.Velocity	3.47 ft/sec

Segment #2 Time: .0088 hrs

Total Tc: .4465 hrs

RUNOFF CURVE NUMBER DATA

Soil/Surface Description	CN	Area acres	Impervious Adjustment %C	%UC	Adjusted CN
Open space (Lawns,parks etc.) – Goo	79	2.040			79.00
COMPOSITE AREA & WEIGHTED CN ---->		2.040			79.00 (79)



PRE DEVELOPED CONDTIONS

POST DEVELOPED CONDITIONS

Node ID	Type	Return Event	HYG Vol ac-ft	Trun	Qpeak hrs	Qpeak cfs	Max WSEL ft	Pond	Max Storage ac-ft
DA #A	AREA	100	.656		12.1000	7.26			
DA #A	AREA	25	.472		12.1000	5.33			
DA #A	AREA	10	.362		12.1000	4.16			
DA #A	AREA	2	.290		12.1000	3.38			
DA#B	AREA	100	.104		12.1000	1.23			
DA#B	AREA	25	.071		12.1000	.86			
DA#B	AREA	10	.052		12.1000	.63			
DA#B	AREA	2	.039		12.1000	.49			
DA#C	AREA	100	.380		12.1000	3.90			
DA#C	AREA	25	.283		12.1000	2.92			
DA#C	AREA	10	.224		12.1000	2.34			
DA#C	AREA	2	.185		12.1000	1.94			
DA#D	AREA	100	.381		12.1000	4.14			
DA#D	AREA	25	.276		12.1000	3.06			
DA#D	AREA	10	.214		12.1000	2.41			
DA#D	AREA	2	.172		12.1000	1.97			
*OUT	JCT	100	1.342		12.1000	16.46			
*OUT	JCT	25	.923		12.1000	12.09			
*OUT	JCT	10	.674		12.1000	9.46			
*OUT	JCT	2	.509		12.1000	7.71			

TIME OF CONCENTRATION CALCULATOR

Name.... DA #A

Segment #1: Tc: TR-55 Sheet

Mannings n	.0160
Hydraulic Length	150.00 ft
2yr, 24hr P	4.0000 in
Slope	.040800 ft/ft
Avg.Velocity	1.64 ft/sec

Segment #1 Time: .0253 hrs

Segment #2: Tc: TR-55 Shallow

Hydraulic Length	168.25 ft
Slope	.040800 ft/ft
Paved	
Avg.Velocity	4.11 ft/sec

Segment #2 Time: .0114 hrs

Total Tc: .0367 hrs

Calculated Tc < Min.Tc:
Use Minimum Tc...
Use Tc = .0833 hrs

Name.... DA#B

Segment #1: Tc: TR-55 Sheet

Mannings n	.0160
Hydraulic Length	300.00 ft
2yr, 24hr P	4.0000 in
Slope	.053200 ft/ft
Avg.Velocity	2.10 ft/sec

Segment #1 Time: .0397 hrs

Segment #2: Tc: TR-55 Shallow

Hydraulic Length	56.50 ft
Slope	.053200 ft/ft
Unpaved	
Avg.Velocity	3.72 ft/sec

Segment #2 Time: .0042 hrs

Total Tc: .0439 hrs

Calculated Tc < Min.Tc:
Use Minimum Tc...
Use Tc = .0833 hrs

Name.... DA#C

Segment #1: Tc: TR-55 Sheet

Mannings n	.0160
Hydraulic Length	150.00 ft
2yr, 24hr P	4.0000 in
Slope	.022200 ft/ft
Avg.Velocity	1.29 ft/sec

Segment #1 Time: .0323 hrs

Segment #2: Tc: TR-55 Shallow

Hydraulic Length	239.25 ft
Slope	.022200 ft/ft
Paved	
Avg.Velocity	3.03 ft/sec

Segment #2 Time: .0219 hrs

Total Tc: .0543 hrs

Calculated Tc < Min.Tc:
Use Minimum Tc...
Use Tc = .0833 hrs

Name.... DA#D

Segment #1: Tc: TR-55 Sheet

Mannings n	.0160
Hydraulic Length	150.00 ft
2yr, 24hr P	4.0000 in
Slope	.036900 ft/ft
Avg.Velocity	1.58 ft/sec

Segment #1 Time: .0264 hrs

Segment #2: Tc: TR-55 Shallow

Hydraulic Length	331.00 ft
Slope	.036900 ft/ft
Paved	
Avg.Velocity	3.90 ft/sec

Segment #2 Time: .0235 hrs

Total Tc: .0499 hrs

Calculated Tc < Min.Tc:
Use Minimum Tc...
Use Tc = .0833 hrs

RUNOFF CURVE NUMBER DATA

Type.... Runoff CN-Area Page 3.01
Name.... DA #A

Soil/Surface Description	CN	Area acres	Impervious Adjustment %C	%UC	Adjusted CN
Open space (Lawns,parks etc.) – Goo	79	.897	57.30		89.89
COMPOSITE AREA & WEIGHTED CN ---->		.897			89.89 (90)

Type.... Runoff CN-Area Page 3.02
Name.... DA#B

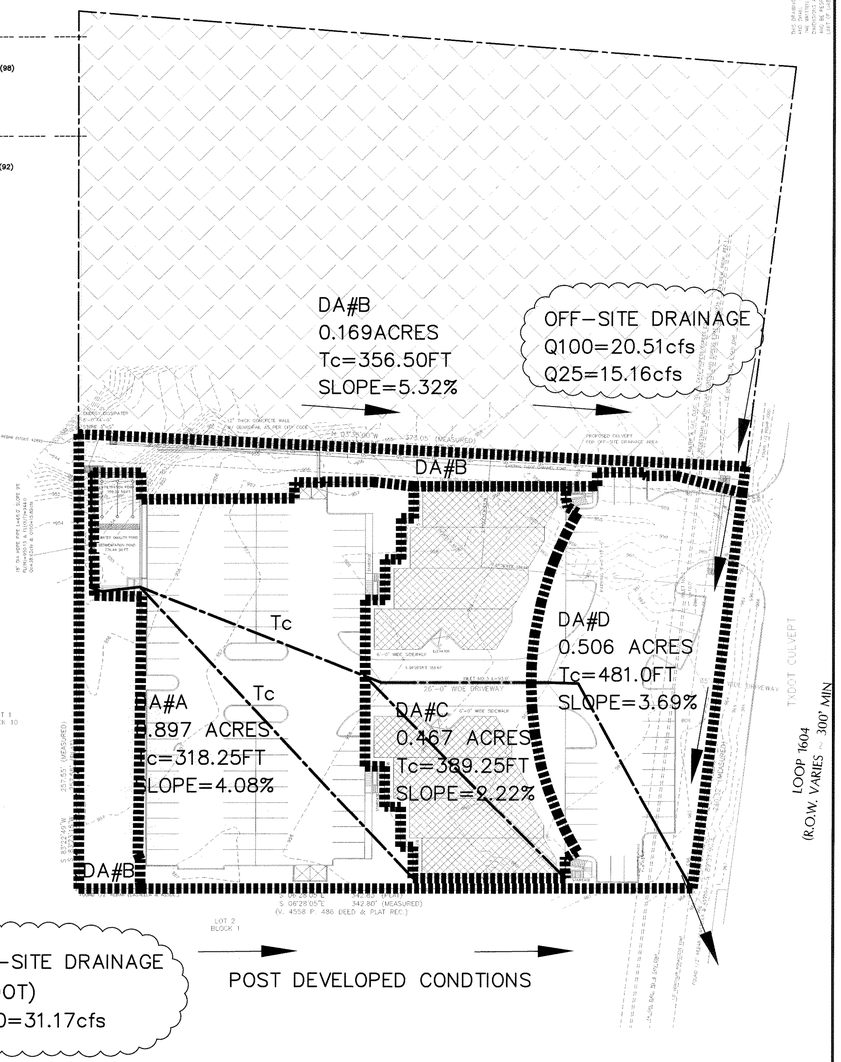
Soil/Surface Description	CN	Area acres	Impervious Adjustment %C	%UC	Adjusted CN
Open space (Lawns,parks etc.) – Goo	79	.169			79.00
COMPOSITE AREA & WEIGHTED CN ---->		.169			79.00 (79)

Type.... Runoff CN-Area Page 3.03
Name.... DA#C

Soil/Surface Description	CN	Area acres	Impervious Adjustment %C	%UC	Adjusted CN
Open space (Lawns,parks etc.) – Goo	79	.467	100.00		98.00
COMPOSITE AREA & WEIGHTED CN ---->		.467			98.00 (98)

Type.... Runoff CN-Area Page 3.04
Name.... DA#D

Soil/Surface Description	CN	Area acres	Impervious Adjustment %C	%UC	Adjusted CN
Open space (Lawns,parks etc.) – Goo	79	.506	66.00		91.54
COMPOSITE AREA & WEIGHTED CN ---->		.506			91.54 (92)



OFF-SITE DRAINAGE
(TxDOT)
Q100=31.17cfs

POST DEVELOPED CONDTIONS

STATE OF TEXAS
MIRZA TAHIR BAIG
82577
REGISTERED
PROFESSIONAL ENGINEER

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY MIRZA TAHIR BAIG, P.E., #82577 ON 06/29/2013

FIRM REGISTRATION F-4951

Revision	Description	Date	Drawn
6	ISSUED FOR APPROVAL	06/29/13	
5	ISSUED FOR APPROVAL	05/22/13	
4	ISSUED FOR APPROVAL	05/10/13	
3	ISSUED FOR APPROVAL	05/07/13	
2	ISSUED FOR APPROVAL	04/26/13	
1	ISSUED FOR APPROVAL	03/28/13	
0	ISSUED FOR APPROVAL	01/30/13	

PROFESSIONAL STRUCIVIL ENGINEERS, INC.
CONSULTING CIVIL AND STRUCTURAL ENGINEERS
12710 RESEARCH BLVD., SUITE 390, AUSTIN, TX 78759 | TEL. 512.238.6422 | FAX. 512.258.8095

Project: NORTH LOOP RETAIL CENTER
226 & 238 TEXAS LOOP 1604
SAN ANTONIO, TEXAS 78232

Title: DRAINAGE AREA MAP

PROJECT 28001

SHEET 24 OF 26

CITY OF SAN ANTONIO PLANS REVIEWED DEVELOPMENT SERVICES DEPT

2000- 0015661

Book Vol'm Page
09546 68833

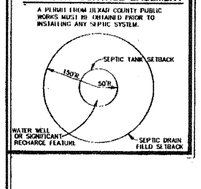
RETURNED TO: RECORDERS

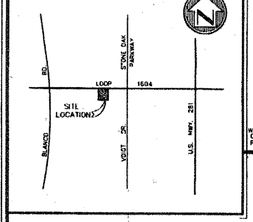
At time of recordation this instrument was found to be inadequate for good and sufficient record due to: (illegibility, carbon or photo copy, discolored paper, etc.)

980038

SANITARY CONTROL EASEMENT

A PERMIT FROM BEXAR COUNTY PUBLIC WORKS MUST BE OBTAINED PRIOR TO INSTALLING ANY SEPTIC SYSTEM.





LOCATION MAP

Filed for Record in:
BEXAR COUNTY, TEXAS
GERRY RICHOFF, COUNTY CLERK
On Jan 28 2000
At 11:43am

Receipt #: 300849
Recording: 16.00
Doc/Mgmt: 6.00

Doc/Num : 2000- 0015661

Deputy -Jetty Sepulveda

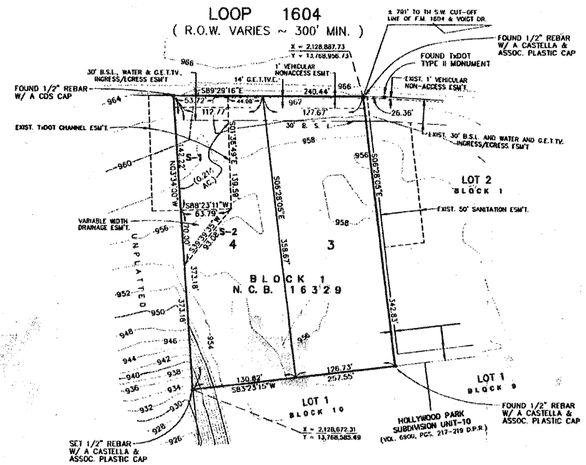
"NOTES AND LEGEND"

1.) THE CITY OF SAN ANTONIO AS A PART OF ITS ELECTRIC AND GAS SYSTEM (CITY PUBLIC SERVICE BOARD) IS HEREBY DEDICATED THE EASEMENTS AND RIGHTS-OF-WAY FOR ELECTRIC AND GAS DISTRIBUTION AND SERVICE FACILITIES IN THE AREAS DESIGNATED ON THIS PLAT AS "ELECTRIC EASEMENT," "GAS EASEMENT," "ANCHOR EASEMENT," "SERVICE EASEMENT," "OVERHANG EASEMENT," "UTILITY EASEMENT," AND "TRANSFORMER EASEMENT" FOR THE PURPOSE OF INSTALLING, CONSTRUCTING, RECONSTRUCTING, MAINTAINING, REMOVING, INSPECTING, PATROLLING, AND ERECTING POLES, HANGING OR BURYING WIRES, CABLES, CONDUITS, PIPELINES, TRANSFORMERS, EACH WITH ITS NECESSARY APPURTENANCES, TOGETHER WITH RIGHT OF INGRESS AND EGRESS OVER GRANTORS ADJACENT LAND, THE RIGHT TO RELOCATE SAID FACILITIES WITHIN SAID EASEMENT AND RIGHT-OF-WAY AREAS AND THE RIGHT TO REMOVE FROM SAID LANDS ALL TREES AND PARTS THEREOF, OR OTHER OBSTRUCTIONS WHICH ENDANGER OR MAY INTERFERE WITH THE EFFICIENCY OF SAID LINES OR APPURTENANCES THERETO. IT IS AGREED AND UNDERSTOOD THAT NO BUILDINGS, CONCRETE SLABS OR WALLS WILL BE PLACED WITHIN SAID EASEMENT AREAS.

2.) ANY CPS MONETARY LOSS RESULTING FROM MODIFICATIONS REQUIRED OF CPS EQUIPMENT, LOCATED WITHIN SAID EASEMENT, DUE TO GRADE CHANGES OR GROUND ELEVATION ALTERATION SHALL BE CHARGED TO THE PERSON OR PERSONS DEEMED RESPONSIBLE FOR SAID GRADE CHANGES OR GROUND ELEVATION ALTERATION.

3.) THIS PLAT DOES NOT AMEND, ALTER, RELEASE OR OTHERWISE AFFECT ANY EXISTING ELECTRIC, GAS, WATER, SEWER, DRAINAGE, TELEPHONE, CABLE EASEMENTS OR ANY OTHER EASEMENTS FOR UTILITIES UNLESS THE CHANGES TO SUCH EASEMENTS ARE DESCRIBED BELOW.

4.) BUILDING SETBACK LINE ---------- B.S.L.
5.) ELECTRIC TELEPHONE & CABLE TELEVISION EASEMENT ---------- E.T.TV.E.
6.) ELECTRIC & CABLE TELEVISION EASEMENT ---------- E.TV.E.
7.) TELEPHONE & CABLE TELEVISION EASEMENT ---------- T.TV.E.
8.) GAS, ELECTRIC, TELEPHONE & CABLE TELEVISION EASEMENT ---------- G.E.T.TV.E.
9.) THE NUMBER OF WASTEWATER EQUIVALENT DWELLING UNITS (EDUs) PAID FOR THIS SUBDIVISION PLAT ARE KEPT ON FILE AT THE SAN ANTONIO WATER SYSTEM UNDER THE PLAT NUMBER ISSUED BY THE PLANNING DEPARTMENT.



GRAPHIC SCALE

100 0 50 100 200

1 inch = 100 ft.

EDWARDS AQUIFER NOTES:

THIS SUBDIVISION IS WITHIN THE EDWARDS RECHARGE ZONE. DEVELOPMENT WITHIN THIS SUBDIVISION IS SUBJECT TO CHAPTER 34, ARTICLE VI, DIVISION 6 OF THE SAN ANTONIO CITY CODE ENTITLED "AQUIFER RECHARGE ZONE AND WATERSHED PROTECTION." OR LATEST REVISIONS THEREOF.

NO PERSON SHALL COMMENCE THE CONSTRUCTION OF ANY REGULATED ACTIVITY UNTIL AN EDWARDS AQUIFER PROTECTION PLAN "WATER POLLUTION ABATEMENT PLAN (WPAP)" OR MODIFICATION TO AN APPROVED PLAN AS REQUIRED BY 30 TAC 213.5 OF THE TEXAS WATER CODE, OR LATEST REVISION THEREOF, HAS BEEN FILED WITH THE APPROPRIATE REGIONAL TNRCC OFFICE, AND THE APPLICATION HAS BEEN APPROVED BY THE EXECUTIVE DIRECTOR OF THE REGIONAL TNRCC OFFICE.

S-1 AND S-2 ARE RECHARGE FEATURES IDENTIFIED IN GEOLOGIC ASSESSMENT OF PROPERTY, DATED 11/7/98.

NOTES:

1. CONTROL MONUMENTS AS SHOWN. BASED ON A SURVEY MADE ON THE GROUND ON 08/06/97.
2. THE VALUE OF THE SETS OF COORDINATES SHOWN HEREON WERE OBTAINED WITH GLOBAL POSITIONING RECEIVERS WITH REFERENCE TO STATION REDLAND #AY1811 DATUM IS NAD83 CONVERTED TO FEET.
   STATE PLANE COORDINATES ARE GRID
   SCALE FACTOR IS 0.999874
   ROTATION GRID TO PLAT IS 0°16'12"
3. BASIS OF BEARING RECITED HEREIN IS THE PLAT OF CENTURION STORAGE SUBDIVISION UNIT 6 RECORDED IN VOLUME 9538, PAGE 32, D.P.R.
4. D.P.R. - DEED AND PLAT RECORDS, BEXAR COUNTY, TEXAS
   R.P.R. - OFFICIAL PUBLIC RECORDS OF REAL PROPERTY, BEXAR COUNTY, TEXAS.
5. THE LOT, BLOCK & N.C.B.'S ASSIGNED HEREON WERE ASSIGNED BY THE SAN ANTONIO CITY TAX OFFICE. W.F. CASTELLA & ASSOC. INC. ASSUMES NO LIABILITY FOR THEIR ACCURACY.

SUBDIVISION PLAT OF

ALLEN – 1604 SUBDIVISION

BEING 2.041 ACRES OF LAND OUT OF N.C.B. 16329, SAN ANTONIO, BEXAR COUNTY, TEXAS.

W.F. CASTELLA & ASSOCIATES, INC.
Engineers • Surveyors • Planners
6800 Park Ten Blvd., Suite 180 South – San Antonio, Texas 78213 - 210-734-5471591

DRAWN BY: B.H.
JOB ORDER NO. 46278.05

STATE OF TEXAS
JOE F. NIX
6591
REGISTERED PROFESSIONAL ENGINEER

STATE OF TEXAS)
COUNTY OF BEXAR)

I HEREBY CERTIFY THAT PROPER ENGINEERING CONSIDERATIONS HAS BEEN GIVEN TO THIS PLAT TO THE MATTERS OF LOTS, STREETS, AND DRAINAGE LAYOUTS AND TO THE BEST OF MY KNOWLEDGE THIS PLAT CONFORMS TO ALL REQUIREMENTS OF THE SUBDIVISION ORDINANCE, EXCEPT FOR THOSE VARIANCES THAT MAY BE GRANTED BY THE PLANNING COMMISSION OF THE CITY.

REGISTERED PROFESSIONAL ENGINEER

SWORN TO & SUBSCRIBED BEFORE ME THIS THE 18 DAY OF NOVEMBER A.D.,1999.

NOTARY PUBLIC IN BEXAR COUNTY, TEXAS

ARTHUR LEE WRIGHT
MY COMMISSION EXPIRES
NOVEMBER 8, 2001

TxDOT NOTES

1) FOR RESIDENTIAL DEVELOPMENT DIRECTLY ADJACENT TO STATE RIGHT OF WAY, THE DEVELOPER SHALL BE RESPONSIBLE FOR ADEQUATE SETBACK AND/OR SOUND ABATEMENT MEASURES FOR FUTURE NOISE MITIGATION.
2) OWNER/DEVELOPER IS RESPONSIBLE FOR PREVENTING ANY ADVERSE IMPACT TO THE EXISTING DRAINAGE SYSTEM WITHIN THE HIGHWAY R.O.W.
3) MAXIMUM ACCESS POINTS TO STATE HIGHWAY FROM THIS PROPERTY WILL BE REGULATED AS DIRECTED BY "REGULATIONS FOR ACCESS DRIVEWAYS TO STATE HIGHWAYS".
4) ANY SIDEWALKS TO BE CONSTRUCTED WITHIN STATE RIGHT OF WAY ALONG FREEWAY FRONTAGE ROADS WILL BE LOCATED DIRECTLY ADJACENT TO THE RIGHT OF WAY LINE.
5) STATE RIGHT-OF-WAY WILL NOT BE UTILIZED FOR THE PURPOSES OF TREATING STORM WATER FROM ADJACENT PROPERTY.

STATE OF TEXAS
DION P. ALBERTSON
4963
REGISTERED PROFESSIONAL LAND SURVEYOR

STATE OF TEXAS)
COUNTY OF BEXAR)

I HEREBY CERTIFY THAT THIS PLAT IS TRUE AND CORRECT AND WAS PREPARED FROM AN ACTUAL SURVEY OF THE PROPERTY MADE UNDER MY SUPERVISION ON THE GROUND.

REGISTERED PROFESSIONAL LAND SURVEYOR

SWORN TO & SUBSCRIBED BEFORE ME THIS THE 18 DAY OF NOVEMBER A.D.,1999.

NOTARY PUBLIC, BEXAR COUNTY, TEXAS

ARTHUR LEE WRIGHT
MY COMMISSION EXPIRES
NOVEMBER 8, 2001

STATE OF TEXAS)
COUNTY OF BEXAR)

THE OWNER OF THE LAND SHOWN ON THIS PLAT IN PERSON OR THROUGH DULY AUTHORIZED AGENT DEDICATES TO THE USE OF THE PUBLIC FOREVER ALL STREETS, ALLEYS, WATERCOURSES, DRAINS, EASEMENTS, AND PUBLIC PLACES THEREON SHOWN FOR THE PURPOSE AND CONSIDERATION THEREIN EXPRESSED.

OWNER

DULY AUTHORIZED AGENT

ARTHUR LEE WRIGHT
MY COMMISSION EXPIRES
NOVEMBER 8, 2001

STATE OF TEXAS)
COUNTY OF BEXAR)

BEFORE ME, THE UNDERSIGNED AUTHORITY ON THIS DAY PERSONALLY APPEARED JAMES ALLEN 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 CONSIDERATION THEREIN EXPRESSED AND IN THE CAPACITY THEREIN STATED.

GIVEN UNDER MY HAND & SEAL OF OFFICE THIS 18 DAY OF NOVEMBER A.D.,1999.

NOTARY PUBLIC IN BEXAR COUNTY, TEXAS

THIS PLAT OF ALLEN – 1604 SUBDIVISION
HAS BEEN SUBMITTED TO AND CONSIDERED BY THE PLANNING COMMISSION OF THE CITY OF SAN ANTONIO, TEXAS AND IS HEREBY APPROVED BY SUCH COMMISSION.

DATED THIS 26 DAY OF January A.D. 2000
THE PLANNING COMMISSION OF THE CITY OF SAN ANTONIO, TEXAS

BY: Edward J. Wendrock CHAIRMAN

BY: SECRETARY

STATE OF TEXAS)
COUNTY OF BEXAR)

I, Gerry Rickhoff COUNTY CLERK OF SAID COUNTY DO HEREBY CERTIFY THAT THIS PLAT WAS FILED FOR RECORD IN MY OFFICE, ON THE 28th DAY OF January A.D. 2000 AT 11:43 A.M. AND DULY RECORDED THE 31st DAY OF January A.D. 2000 AT 5:20 P.M. IN THE RECORDS OF Deed & Plats OF SAID COUNTY, IN BOOK VOLUME 9546 ON PAGE 33

IN TESTIMONY WHEREOF, WITNESS MY HAND AND OFFICIAL SEAL OF OFFICE THIS 31st DAY OF January A.D. 2000

COUNTY CLERK, BEXAR COUNTY, TEXAS

BY: Myra J. Hines DEPUTY

.DRAW\JOE NIX\ALLEN-PR\46278 02.dwg Thu Nov 18 15:17:15 1999 Marco Garza

STATE OF TEXAS
MIRZA TAHIR BAIG
82577
REGISTERED PROFESSIONAL ENGINEER

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY MIRZA TAHIR BAIG, P.E., #82577 ON 06/29/2013

FIRM REGISTRATION F-4951

This drawing is an instrument of service and shall remain the property of the Architect. No part shall be copyable, reproduced or published in any manner whatsoever or used for any purpose other than for the specific project for which it was prepared and developed without written consent of the Architect. Visual contact with these plans shall constitute prima facie evidence of the acceptance of these restrictions.

Revision	Description	Date	Drawn
6	ISSUED FOR APPROVAL	06/29/13	
5	ISSUED FOR APPROVAL	05/22/13	
4	ISSUED FOR APPROVAL	05/10/13	
3	ISSUED FOR APPROVAL	05/07/13	
2	ISSUED FOR APPROVAL	04/26/13	
1	ISSUED FOR APPROVAL	03/28/13	
0	ISSUED FOR APPROVAL	01/30/13	

PROFESSIONAL STRUCTURAL ENGINEERS, INC.
CONSULTING CIVIL AND STRUCTURAL ENGINEERS
12770 RESEARCH BLVD., SUITE 380, AUSTIN, TX 78759 | TEL 512.258.6422 | FAX 512.258.8095

Project: NORTH LOOP RETAIL CENTER
226 & 238 TEXAS LOOP 1604
SAN ANTONIO, TEXAS 78232

Title: FINAL PLAT

PROJECT 28001

SHEET 25 OF 26

CITY OF SAN ANTONIO PLAN REVIEWED DEVELOPMENT SERVICES DEPT.

System AA - 10 Year						
AREA ID	COMPOSITE AREA (ACRES)	Tc (MIN)	Tc USED (MIN)	COMPOSITE C VALUE	INTENSITY (IN/HR)	DISCHARGE (CFS)
AA-20	0.23	2	10	0.90	8.07	1.69
AA-19	0.30	2	10	0.90	8.07	2.21
AA-18	0.23	3	10	0.69	8.07	1.27
AA-6	0.19	3	10	0.80	8.07	1.24
AA-5B	0.14	2	10	0.90	8.07	1.03
AA-5A	0.15	2	10	0.90	8.07	1.12
AA-4	0.20	6	10	0.90	8.07	1.48
AA-5	0.17	2	10	0.90	8.07	1.20
AA-17	0.36	2	10	0.74	8.07	2.15
AA-15	0.47	3	10	0.73	8.07	2.77
AA-14	1.90	3	10	0.66	8.07	10.11
AA-13	0.67	5	10	0.88	8.07	4.72
AA-1	3.19	8	10	0.68	8.07	17.55
AA-1A	0.21	2	10	0.90	8.07	1.52
AA-1B	0.31	2	10	0.90	8.07	2.22
AA-1C	0.56	4	10	0.90	8.07	4.04
AA-12	0.87	5	10	0.80	8.07	5.62

System AA - 100 Year						
AREA ID	COMPOSITE AREA (ACRES)	Tc (MIN)	Tc USED (MIN)	COMPOSITE C VALUE	INTENSITY (IN/HR)	DISCHARGE (CFS)
AA-20	0.23	2	10	1.00	11.49	2.67
AA-19	0.30	2	10	1.00	11.49	3.50
AA-18	0.23	3	10	0.86	11.49	2.24
AA-6	0.19	3	10	1.00	11.49	2.20
AA-5B	0.14	2	10	1.00	11.49	1.63
AA-5A	0.15	2	10	1.00	11.49	1.77
AA-4	0.20	6	10	1.00	11.49	2.33
AA-5	0.17	2	10	1.00	11.49	1.90
AA-17	0.36	2	10	0.93	11.49	3.85
AA-15	0.47	3	10	0.91	11.49	4.91
AA-14	1.90	3	10	0.83	11.49	18.13
AA-13	0.67	5	10	1.00	11.49	7.68
AA-1	3.19	8	10	0.85	11.49	31.17
AA-1A	0.21	2	10	1.00	11.49	2.41
AA-1B	0.31	2	10	1.00	11.49	3.56
AA-1C	0.56	4	10	1.00	11.49	6.43
AA-12	0.87	5	10	1.00	11.49	10.00

NOTE: DRAINAGE AREA AA-1 INCLUDES DRAINAGE AREAS AA-1A, AA-1B, & AA-1C

System AB - 10 Year						
AREA ID	COMPOSITE AREA (ACRES)	Tc (MIN)	Tc USED (MIN)	COMPOSITE C VALUE	INTENSITY (IN/HR)	DISCHARGE (CFS)
AB-10	2.18	12	12	0.55	7.33	8.80

System AB - 100 Year						
AREA ID	COMPOSITE AREA (ACRES)	Tc (MIN)	Tc USED (MIN)	COMPOSITE C VALUE	INTENSITY (IN/HR)	DISCHARGE (CFS)
AB-10	2.18	12	12	0.69	10.46	15.76

NOTE: ALL CALCULATIONS ARE BASED ON NON-ROUNDED VALUES.

ALAMO RMA
RFCE 4
DATE: Nov 29, 2011

NO.	DATE	REVISION	BY
1	11/23/2011	ADDED DRAINAGE AREAS	JB

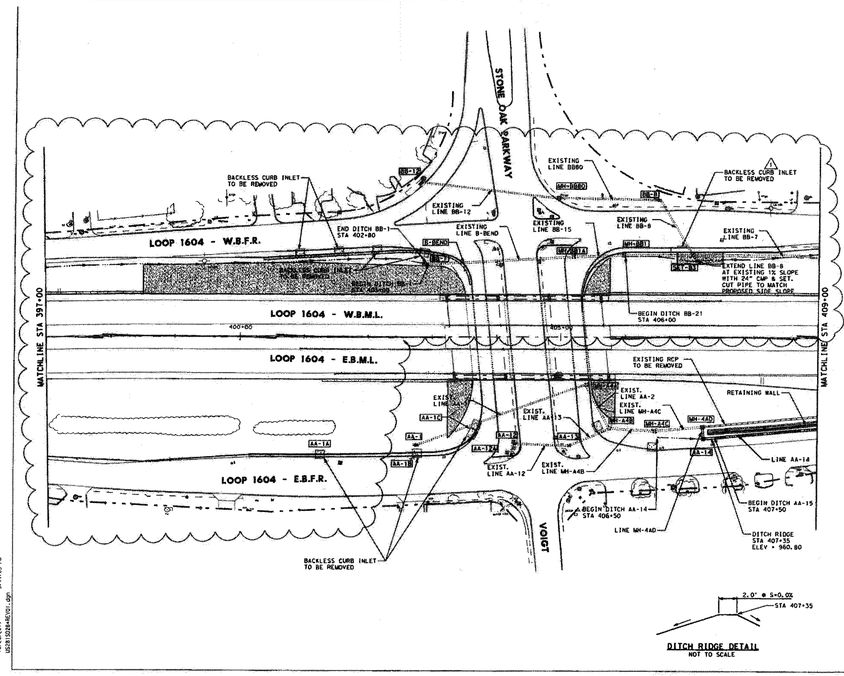
STATE OF TEXAS — ERIN N. SOBOTIK — 102407 — LICENSED PROFESSIONAL ENGINEER — 11/23/11

JACOBS — JACOBS ENGINEERING GROUP INC. — TBPE #2058

ALAMO RMA — Alamo Regional Mobility Authority "Moving people faster"

US 281 LP 1604 INTERCHANGE
HYDROLOGIC DATA SHEET
(DRAINAGE AREA MAP)
LOOP 1604
SHEET 3 OF 17

DIST.	COUNTY	CONTROL	SECT.	JOB NO.	HIGHWAY NO.	FINAL PACKAGE
SAT	BEXAR	0253	04	139, ETC	IH 1604	570



NO.	DATE	REVISION	BY
1	7/25/2011	ADDED 3RD AREA	JB

STATE OF TEXAS — ERIN N. SOBOTIK — 102407 — LICENSED PROFESSIONAL ENGINEER — 10.27.11

ALAMO RMA
RFCE 4
DATE: Nov 03, 2011

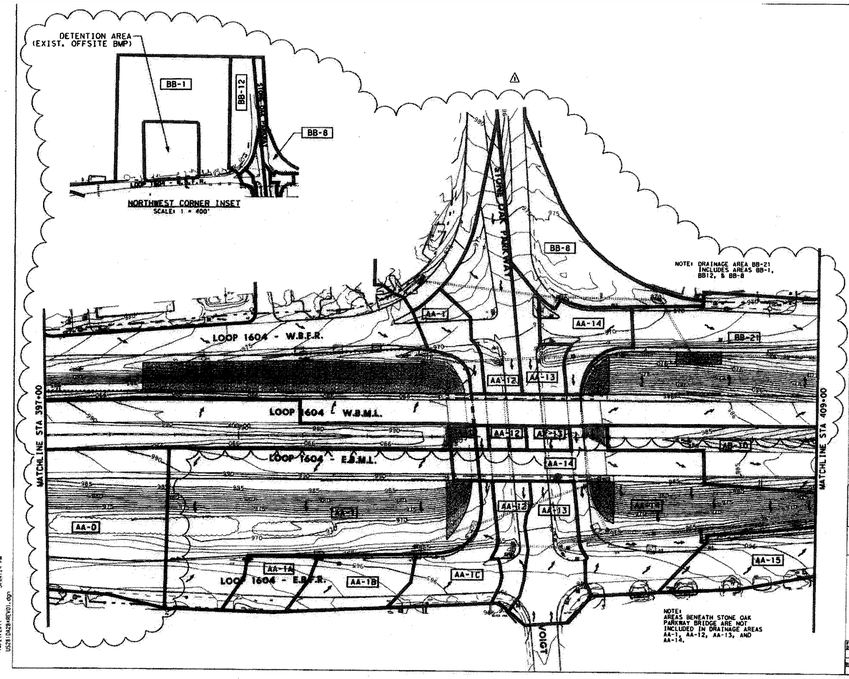
JACOBS — JACOBS ENGINEERING GROUP INC. — TBPE #2058

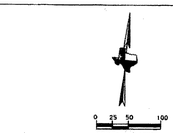
ALAMO RMA — Alamo Regional Mobility Authority "Moving people faster"

US 281 LP 1604 INTERCHANGE

DRAINAGE LAYOUTS
STA 397+00-409+00
LOOP 1604
SHEET 28 OF 43

DIST.	COUNTY	CONTROL	SECT.	JOB NO.	HIGHWAY NO.	FINAL PACKAGE
SAT	BEXAR	0253	04	139, ETC	IH 1604	672





LEGEND
- DRAINAGE AREA BOUNDARY
- AA-16 DRAINAGE AREA IDENTIFIER
- SURFACE FLOW ARROW
- EXIST. PROP. MANHOLE/JUNCTION BOX
- CURB INLET
- GRATE INLETS
- CURB INLET W/EXTENSION
- STORM LINE
- EXISTING STRUCTURE TO BE REMOVED

ALAMO RMA
RFCE 4
DATE: Nov 03, 2011

NO.	DATE	REVISION	BY
1	07/25/2011	ADDED AREAS	JB

STATE OF TEXAS — ERIN N. SOBOTIK — 102407 — LICENSED PROFESSIONAL ENGINEER — 10.27.11

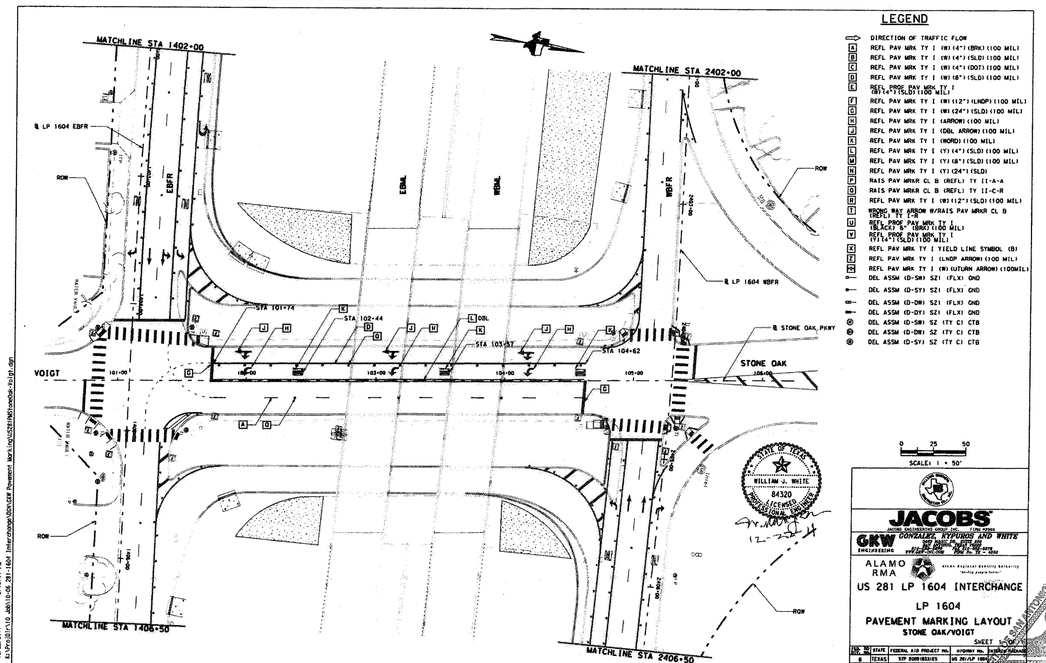
JACOBS — JACOBS ENGINEERING GROUP INC. — TBPE #2058

ALAMO RMA — Alamo Regional Mobility Authority "Moving people faster"

US 281 LP 1604 INTERCHANGE

INTERIOR DRAINAGE AREA MAP
STA 397+00- 409+00
SHEET 28 OF 43

DIST.	COUNTY	CONTROL	SECT.	JOB NO.	HIGHWAY NO.	FINAL PACKAGE
SAT	BEXAR	0253	04	139, ETC	IH 1604	522



JACOBS — JACOBS ENGINEERING GROUP INC. — TBPE #2058

GKW CONSULTANTS, INC. — GONZALEZ, KITUDIO AND WHITE — ENGINEERING — TBPE FIRM REG. NO. F-2966

ALAMO RMA — Alamo Regional Mobility Authority "Moving people faster"

US 281 LP 1604 INTERCHANGE

LP 1604
PAVEMENT MARKING LAYOUT
STONE OAK/VOIGT
SHEET 29 OF 43

DIST.	COUNTY	CONTROL	SECT.	JOB NO.	HIGHWAY NO.	FINAL PACKAGE
SAT	BEXAR		0253	04	139, ETC	

SAN ANTONIO MAIN INTERSTATE HIGHWAY SYSTEM IMPROVEMENT SERVICE

FOR INFORMATION ONLY

STATE OF TEXAS — MIRZA TAHIR BAIG — 82577 — REGISTERED PROFESSIONAL ENGINEER

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY MIRZA TAHIR BAIG, P.E. #82577 ON 06/29/2013

FIRM REGISTRATION F-4951

NO.	DATE	REVISION	BY
6	06/29/13	ISSUED FOR APPROVAL	
5	05/22/13	ISSUED FOR APPROVAL	
4	05/10/13	ISSUED FOR APPROVAL	
3	05/07/13	ISSUED FOR APPROVAL	
2	04/26/13	ISSUED FOR APPROVAL	
1	03/28/13	ISSUED FOR APPROVAL	
0	01/30/13	ISSUED FOR APPROVAL	

PROFESSIONAL STRUCIVIL ENGINEERS, INC.
CONSULTING CIVIL AND STRUCTURAL ENGINEERS
12719 RESEARCH BLVD., SUITE 300, AUSTIN, TX 78759 | TEL: 512.258.8422 | FAX: 512.255.8095

Project: NORTH LOOP RETAIL CENTER
226 & 238 TEXAS LOOP 1604
SAN ANTONIO, TEXAS 78232

Title: OFF-SITE DRAINAGE AREA (TxDOT)

PROJECT 28001

SHEET 26 OF 26