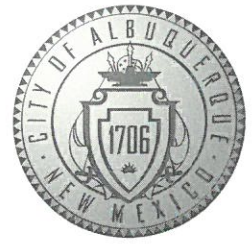


# CITY OF ALBUQUERQUE



January 17, 2018

David Soule, P.E.  
Rio Grande Engineering  
PO Box 93924  
Albuquerque, NM, 87199

RE: **10512 Redbud Residence**  
**10512 Redbud NW**  
**Revised Grading Plan**  
**Engineer's Stamp Date 1/15/18 (File: A12D027)**

Dear Mr. Soule:

Based on the information provided in your submittal received 1/17/18, the Grading Plan is re-approved for Building Permit.

PO Box 1293

If you have any questions, please contact me at 924-3695 or [dpeterson@cabq.gov](mailto:dpeterson@cabq.gov).

Albuquerque

Sincerely,

NM 87103

Dana Peterson, P.E.  
Senior Engineer, Planning Dept.  
Development Review Services

[www.cabq.gov](http://www.cabq.gov)

Orig: Drainage file



# City of Albuquerque

Planning Department

Development & Building Services Division

## DRAINAGE AND TRANSPORTATION INFORMATION SHEET (REV 09/2015)

**Project Title:** \_\_\_\_\_ **Building Permit #:** \_\_\_\_\_ **City Drainage #:** A12D027

**DRB#:** \_\_\_\_\_ **EPC#:** \_\_\_\_\_ **Work Order#:** \_\_\_\_\_

**Legal Description:** \_\_\_\_\_

**City Address:** \_\_\_\_\_

**Engineering Firm:** \_\_\_\_\_ **Contact:** \_\_\_\_\_

**Address:** \_\_\_\_\_

**Phone#:** \_\_\_\_\_ **Fax#:** \_\_\_\_\_ **E-mail:** \_\_\_\_\_

**Owner:** \_\_\_\_\_ **Contact:** \_\_\_\_\_

**Address:** \_\_\_\_\_

**Phone#:** \_\_\_\_\_ **Fax#:** \_\_\_\_\_ **E-mail:** \_\_\_\_\_

**Architect:** \_\_\_\_\_ **Contact:** \_\_\_\_\_

**Address:** \_\_\_\_\_

**Phone#:** \_\_\_\_\_ **Fax#:** \_\_\_\_\_ **E-mail:** \_\_\_\_\_

**Other Contact:** \_\_\_\_\_ **Contact:** \_\_\_\_\_

**Address:** \_\_\_\_\_

**Phone#:** \_\_\_\_\_ **Fax#:** \_\_\_\_\_ **E-mail:** \_\_\_\_\_

Check all that Apply:

**DEPARTMENT:**

☐ HYDROLOGY/ DRAINAGE  
☐ TRAFFIC/ TRANSPORTATION  
☐ MS4/ EROSION & SEDIMENT CONTROL

**CHECK TYPE OF APPROVAL/ACCEPTANCE SOUGHT:**

☐ BUILDING PERMIT APPROVAL  
☐ CERTIFICATE OF OCCUPANCY  
  
☐ PRELIMINARY PLAT APPROVAL  
☐ SITE PLAN FOR SUB'D APPROVAL  
☐ SITE PLAN FOR BLDG. PERMIT APPROVAL  
☐ FINAL PLAT APPROVAL  
☐ SIA/ RELEASE OF FINANCIAL GUARANTEE  
☐ FOUNDATION PERMIT APPROVAL  
☐ GRADING PERMIT APPROVAL  
☐ SO-19 APPROVAL  
☐ PAVING PERMIT APPROVAL  
☐ GRADING/ PAD CERTIFICATION  
☐ WORK ORDER APPROVAL  
☐ CLOMR/LOMR

**TYPE OF SUBMITTAL:**

☐ ENGINEER/ ARCHITECT CERTIFICATION  
  
☐ CONCEPTUAL G & D PLAN  
☐ GRADING PLAN \*\*\*  
☐ DRAINAGE MASTER PLAN  
☐ DRAINAGE REPORT  
☐ CLOMR/LOMR  
  
☐ TRAFFIC CIRCULATION LAYOUT (TCL)  
☐ TRAFFIC IMPACT STUDY (TIS)  
☐ EROSION & SEDIMENT CONTROL PLAN (ESC)  
  
☐ OTHER (SPECIFY) \_\_\_\_\_

☐ PRE-DESIGN MEETING  
☐ OTHER (SPECIFY) \_\_\_\_\_

IS THIS A RESUBMITTAL?: ☐ Yes ☐ No

**DATE SUBMITTED:** \_\_\_\_\_ **By:** \_\_\_\_\_

COA STAFF: \_\_\_\_\_ ELECTRONIC SUBMITTAL RECEIVED: \_\_\_\_\_

\*\*\* revised plan due to geotechnical requirements for ponding upland of large retaining walls

redbud

Weighted E Method													
										100-Year, 6-hr.			
Basin	Area (sf)	Area (acres)	Treatment A % (acres)	Treatment B % (acres)	Treatment C % (acres)	Treatment D % (acres)	Weighted (ac-ft)	Volume (ac-ft)	Flow cfs				
EXISTING	9584.00	0.220	50%	0.11	40%	0.088	10%	0.022	0% 0.000	0.587	0.011	0.38	
PROPOSED	9584.00	0.220	0%	0	31%	0.068	25%	0.055	44%	0.097	1.322	0.024	0.72
rear basin	4189.00	0.096	0%	0	44%	0.042	37%	0.035	20%	0.019	1.041	0.008	0.27
front basin	5395.00	0.124	0%	0	21%	0.026	16%	0.0198	63%	0.078	1.540	0.016	0.45
total													

Equations:

Weighted E = Ea\*Aa + Eb\*Ab + Ec\*Ac + Ed\*Ad / (Total Area)

Volume = Weighted D \* Total Area

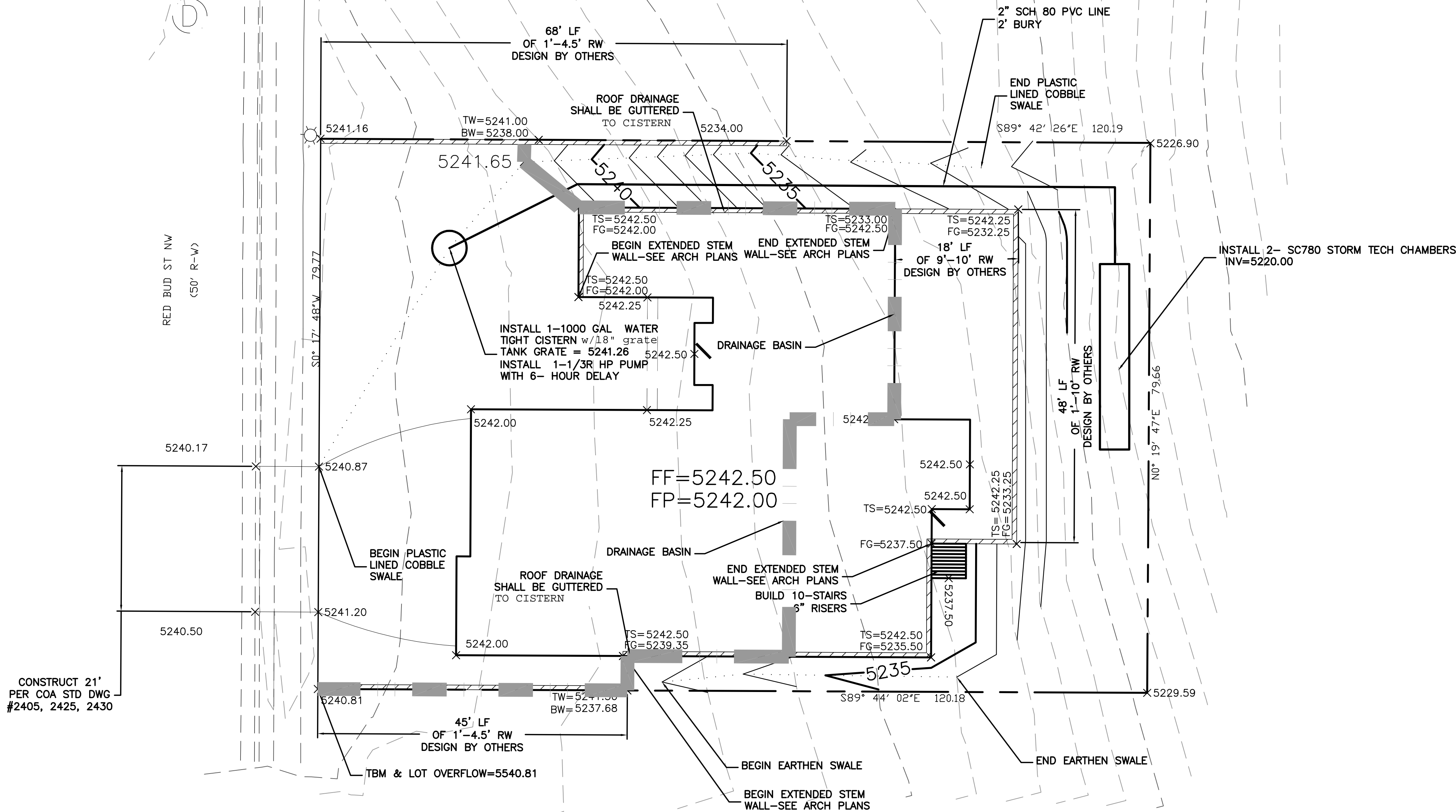
Flow = Qa \* Aa + Qb \* Ab + Qc \* Ac + Qd \* Ad

Where for 100-year, 6-hour storm- zone 1  
Ea= 0.44      Qa= 1.29  
Eb= 0.67      Qb= 2.03  
Ec= 0.99      Qc= 2.87  
Ed= 1.97      Qd= 4.37

ONSITE Conditions		
FIRST FLUSH WATER QUALITY VOLUME	REQUIRED	PROVIDED
	(CF)	(CF)
WATER QUALITY	119	133

Narrative

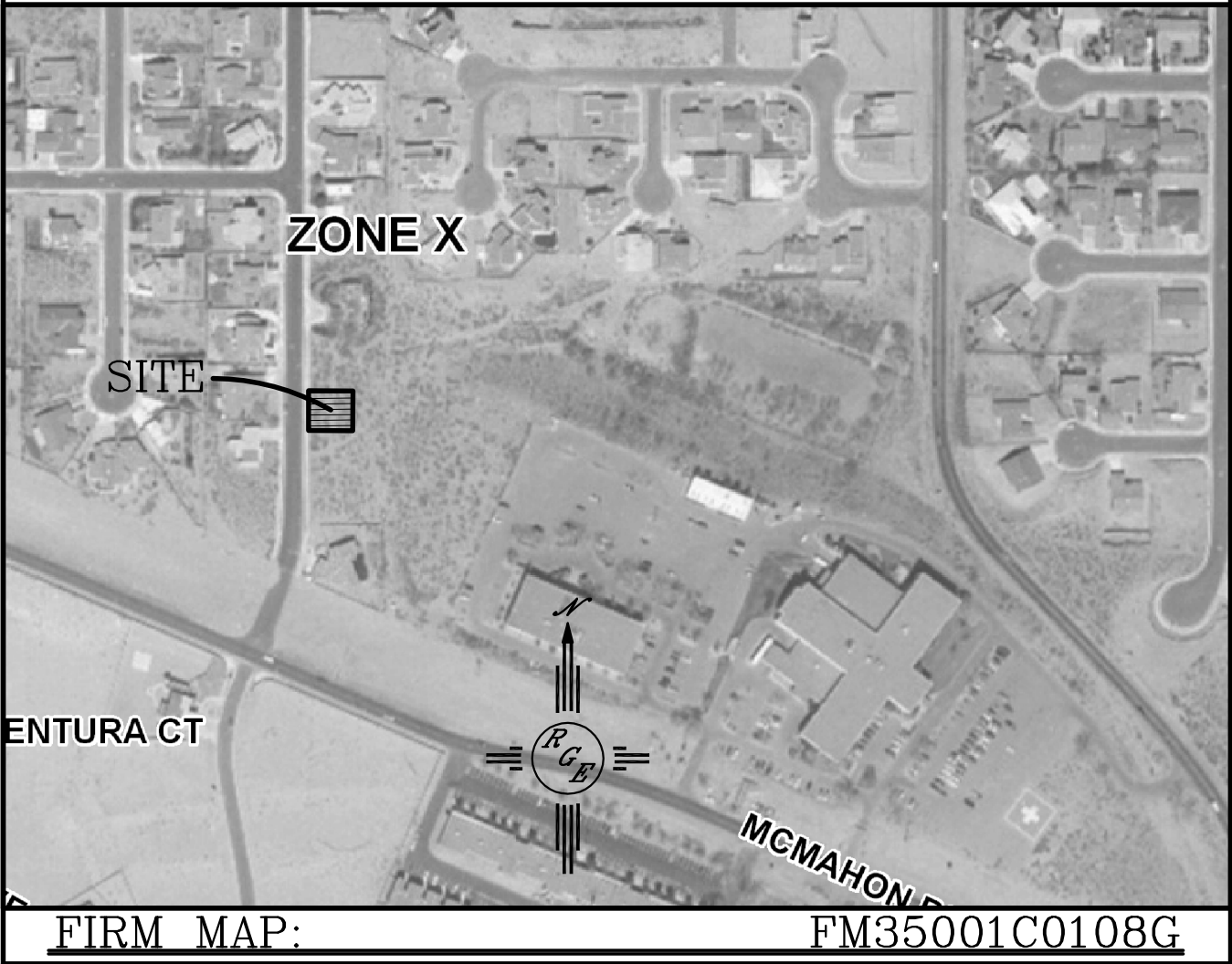
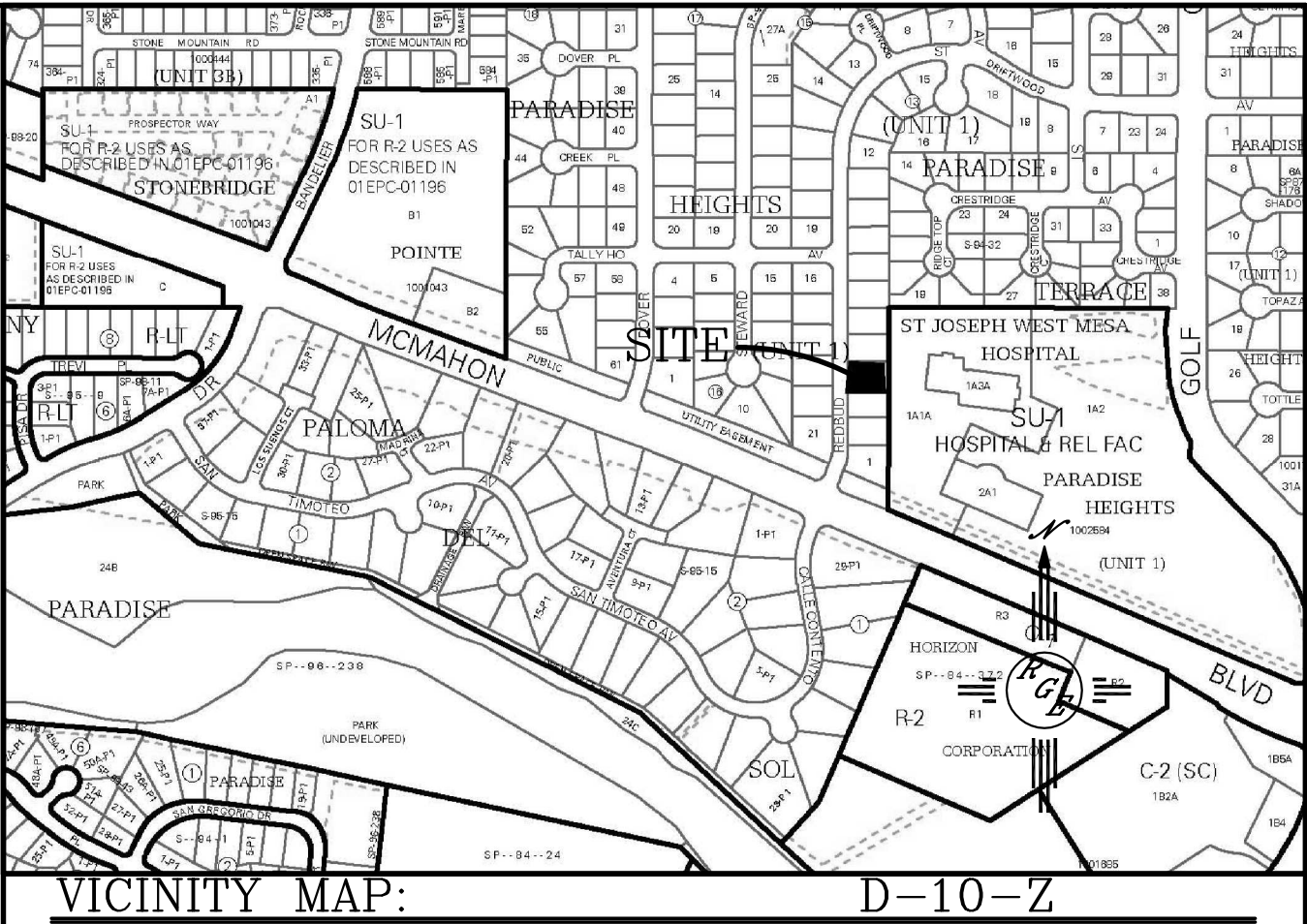
This site is an infill lot within an fully developed subdivision. The existing lots all free discahrge. Due,to existing graded slopes, the existing lot drain to the rear. The plan will direct the majority of the developed flow to the adjacent roadway. The back porch and rear yard will maintain historical drainage patterns and will discharge less than historical rate.The developed site will pond in excess of the water harvest volume generated by the stie. Upland flows do not effect the site.



**CAUTION:**  
EXISTING UTILITIES ARE NOT SHOWN.  
IT SHALL BE THE SOLE RESPONSIBILITY  
OF THE CONTRACTOR TO CONDUCT ALL  
NECESSARY FIELD INVESTIGATIONS PRIOR  
TO ANY EXCAVATION TO DETERMINE THE  
ACTUAL LOCATION OF UTILITIES & OTHER  
IMPROVEMENTS.

EROSION CONTROL NOTES:

1. CONTRACTOR IS RESPONSIBLE FOR OBTAINING A TOPSOIL DISTURBANCE PERMIT PRIOR TO BEGINNING WORK.
2. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING RUN-OFF ON SITE DURING CONSTRUCTION.
3. CONTRACTOR IS RESPONSIBLE FOR CLEANING ALL SEDIMENT THAT GETS INTO EXISTING RIGHT-OF-WAY.
4. REPAIR OF DAMAGED FACILITIES AND CLEANUP OF SEDIMENT ACCUMULATIONS ON ADJACENT PROPERTIES AND IN PUBLIC FACILITIES IS THE RESPONSIBILITY OF THE CONTRACTOR.
5. ALL EXPOSED EARTH SURFACES MUST BE PROTECTED FROM WIND AND WATER EROSION PRIOR TO FINAL ACCEPTANCE OF ANY PROJECT.



LEGAL DESCRIPTION:

LOT 4, BLOCK 13 PARADISE HEIGHTS UNIT 1

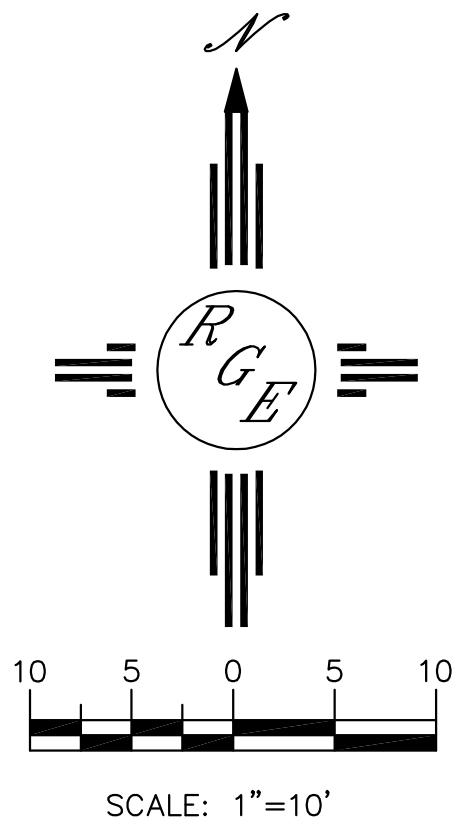
NOTES:

1. ALL SPOT ELEVATIONS REPRESENT FLOWLINE ELEVATION UNLESS OTHERWISE NOTED.

LEGEND

- XXXX --- EXISTING CONTOUR
- XXXX --- EXISTING INDEX CONTOUR
- XXXX --- PROPOSED CONTOUR
- XXXX --- PROPOSED INDEX CONTOUR
- XXXX --- SLOPE TIE
- + XXXX EXISTING SPOT ELEVATION
- + XXXX PROPOSED SPOT ELEVATION
- BOUNDARY
- CENTERLINE
- RIGHT-OF-WAY
- === EXISTING CURB AND GUTTER
- === PROPOSED RETAINING WALL--DESIGN BY OTHERS

<div>ENGINEER'S SEAL</div> <div>DAVID SOULE NEW MEXICO 14522 REGISTERED PROFESSIONAL ENGINEER</div> <div>1/15/18</div> <div>DAVID SOULE P.E. #14522</div>	REDBUD RESIDENCE	DRAWN BY WCVJ
	GRADING AND DRAINAGE PLAN	DATE 1-11-18
	<div></div> <div>Rio Grande Engineering 1606 CENTRAL AVENUE SE SUITE 201 ALBUQUERQUE, NM 87106 (505) 872-0999</div>	21752-LAYOUT-6-15-17
		SHEET # —
		JOB # 21752



[http://www.blueangelpumps.com/index.cfm/product/371\\_59/cbp33.cfm](http://www.blueangelpumps.com/index.cfm/product/371_59/cbp33.cfm)



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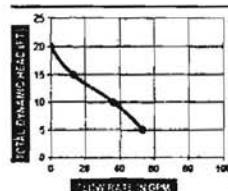
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44 Sump Pumps  
of Pedestal

## CBP33 1/3 HP Cast-Iron PEDESTAL SUMP PUMP

- 53 GPM @ 5'
- Adjustable Vertical Float Allows Homeowner to Change the Operating Cycle to Fit Their Application
- Reliable Cast-Iron Valve
- Corrosion-Resistant Steel Column and Stainless Steel Fasteners
- Heavy-Duty, Air-Cooled Motor is Thermally Protected to Prevent Overheating
- High Capacity 1-1/2" NPT Discharge
- Adjustable Vertical Float Switch
- Reinforced Thermoplastic Impeller
- 8' SJT Power Cord
- 10' or 12' Sump Bearer
- Shipping Weight: 22.5 lbs



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### PERFORMANCE

Discharge Head	5'	10'	15'	20'
Gallons/Minute	53	38	13	-

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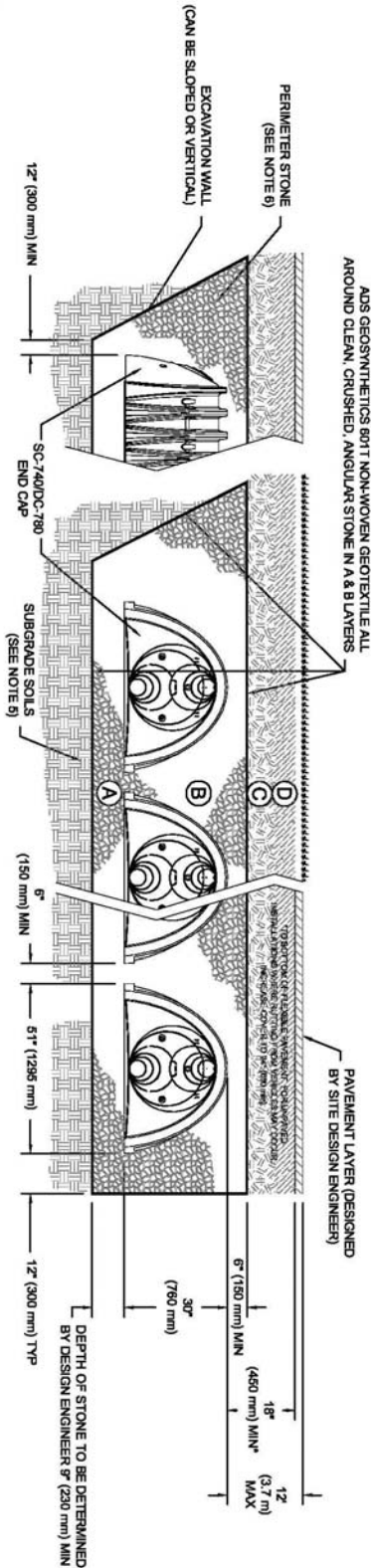
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ACCEPTABLE FILL MATERIALS: STORMTECH DC-780 CHAMBER SYSTEMS

MATERIAL LOCATION	DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D FINAL FILL: FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF EXISTING PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER.	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C INITIAL FILL: FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE (B LAYER) TO 18" (450 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M45 <sup>1</sup> A-1, A-2-4, A-3 OR AASHTO M33 <sup>1</sup> 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 12" (300 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 6" (150 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL-GRADED MATERIAL AND 93% RELATIVE DENSITY FOR UNGRADED MATERIALS. ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 LBS (53 kN). DYNAMIC FORCE NOT TO EXCEED 20,000 LBS (89 kN).
B EMBEDMENT STONE: FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE (A LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE, NOMINAL SIZE DISTRIBUTION BETWEEN 3/4" & 1 1/2" (20-50 mm)	AASHTO M33 <sup>1</sup> 3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED.
A FOUNDATION STONE: FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE, NOMINAL SIZE DISTRIBUTION BETWEEN 3/4" & 1 1/2" (20-50 mm)	AASHTO M33 <sup>1</sup> 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE. **

- PLEASE NOTE:
- THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M33) STONE."
  - STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 6" (150 mm) MAX LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAMPING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.

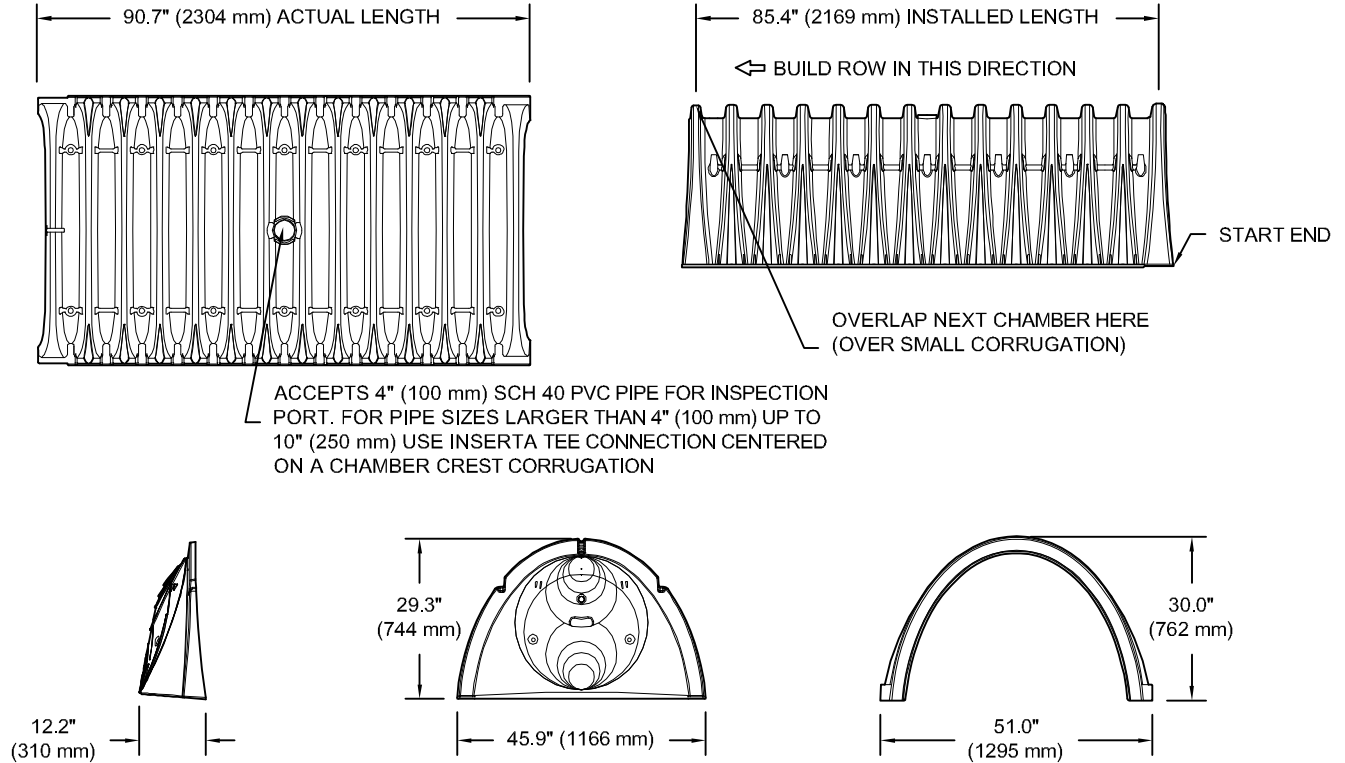


NOTES:

- DC-780 CHAMBERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM F2418 "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- DC-780 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- "ACCEPTABLE FILL MATERIALS" TABLE ABOVE PROVIDES MATERIAL, LOCATIONS, DESCRIPTIONS, GRADATIONS, AND COMPACTION REQUIREMENTS FOR FOUNDATION, EMBEDMENT, AND FILL MATERIALS.
- THE "SITE DESIGN ENGINEER" REFERS TO THE ENGINEER RESPONSIBLE FOR THE DESIGN AND LAYOUT OF THE STORMTECH CHAMBERS FOR THIS PROJECT.
- THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
- PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
- ONCE LAYER 'C' IS PLACED, ANY SOIL MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBGRADE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.

# DC-780 TECHNICAL SPECIFICATION

NTS



## NOMINAL CHAMBER SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)

CHAMBER STORAGE

MINIMUM INSTALLED STORAGE\*

WEIGHT

51.0" X 30.0" X 85.4"

46.2 CUBIC FEET

78.4 CUBIC FEET

75.0 lbs.

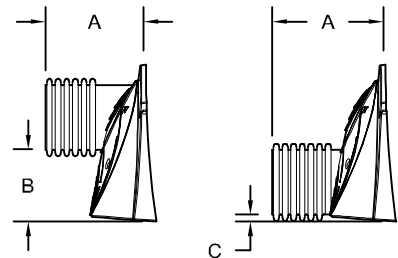
(1295 mm X 762 mm X 2169 mm)

(1.30 m<sup>3</sup>)

(2.20 m<sup>3</sup>)

(33.6 kg)

\*ASSUMES 6" (152 mm) STONE ABOVE, 9" (229 mm) BELOW,  
AND 6" (152 mm) BETWEEN CHAMBERS



STUBS AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "B"  
STUBS AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "T"

PART #	STUB	A	B	C
SC740EPE06T / SC740EPE06TPC	6" (150 mm)	10.9" (277 mm)	18.5" (470 mm)	—
SC740EPE06B / SC740EPE06BPC			—	0.5" (13 mm)
SC740EPE08T / SC740EPE08TPC	8" (200 mm)	12.2" (310 mm)	16.5" (419 mm)	—
SC740EPE08B / SC740EPE08BPC			—	0.6" (15 mm)
SC740EPE10T / SC740EPE10TPC	10" (250 mm)	13.4" (340 mm)	14.5" (368 mm)	—
SC740EPE10B / SC740EPE10BPC			—	0.7" (18 mm)
SC740EPE12T / SC740EPE12TPC	12" (300 mm)	14.7" (373 mm)	12.5" (318 mm)	—
SC740EPE12B / SC740EPE12BPC			—	1.2" (30 mm)
SC740EPE15T / SC740EPE15TPC	15" (375 mm)	18.4" (467 mm)	9.0" (229 mm)	—
SC740EPE15B / SC740EPE15BPC			—	1.3" (33 mm)
SC740EPE18T / SC740EPE18TPC	18" (450 mm)	19.7" (500 mm)	5.0" (127 mm)	—
SC740EPE18B / SC740EPE18BPC			—	1.6" (41 mm)
SC740EPE24B*	24" (600 mm)	18.5" (470 mm)	—	0.1" (3 mm)

ALL STUBS, EXCEPT FOR THE SC740EPE24B ARE PLACED AT BOTTOM OF END CAP SUCH THAT THE OUTSIDE DIAMETER OF THE STUB IS FLUSH WITH THE BOTTOM OF THE END CAP. FOR ADDITIONAL INFORMATION CONTACT STORMTECH AT 1-888-892-2694.

\* FOR THE SC740EPE24B THE 24" (600 mm) STUB LIES BELOW THE BOTTOM OF THE END CAP APPROXIMATELY 1.75" (44 mm). BACKFILL MATERIAL SHOULD BE REMOVED FROM BELOW THE N-12 STUB SO THAT THE FITTING SITS LEVEL.

NOTE: ALL DIMENSIONS ARE NOMINAL