

CITY OF ALBUQUERQUE

PLANNING DEPARTMENT – Development Review Services



July 24, 2015

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

Richard J. Berry, Mayor

RE: American Toyota (File: C18D012)
Drainage Report, Engineer's Stamp Date 3-16-15
Grading and Drainage Plan, Engineer's Stamp Date 7-22-15

Dear Mr. Soule:

Based upon the information provided in your submittal received 7-22-15, the above referenced submittal is approved for Building Permit. Please attach a copy of this approved plan in the construction sets when submitting for a building permit. Since the Building Permit set has already been approved by Hydrology, the older plan needs to be replaced by this plan.

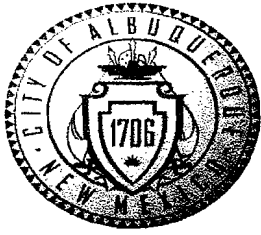
Prior to Certificate of Occupancy release, Engineer Certification per the DPM checklist will be required.

If you have any questions, you can contact me at 924-3695.

Sincerely,

Rita Harmon, P.E.
Senior Engineer, Planning Dept.
Development Review Services

Orig: Drainage file
c.pdf: via Email: Recipient



City of Albuquerque

Planning Department

Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(REV 02/2013)

Project Title: American Toyota Building Permit #: _____ City Drainage #: C18d012

DRB#: _____ EPC#: _____ Work Order#: _____

Legal Description: Tracts A1 and B-1, American Toyota and lots 15-18 tract a unit b NAA

City Address: 5995 Alameda NE

Engineering Firm: RIO GRANDE ENGINEERING Contact: DAVID SOULE

Address: PO BOX 93924, ALBUQUERQUE, NM 87199

Phone#: 505.321.9099 Fax#: 505.872.0999 E-mail: DAVID@RIOGRANDEENGINEERING.COM

Owner: milller family group Contact: _____

Address: _____

Phone#: _____ Fax#: _____ E-mail: _____

Architect: john mahony Contact: _____

Address: _____

Phone#: _____ Fax#: _____ E-mail: _____

Surveyor: CONSTRUCTION SURVEY INCORPORATED Contact: JOHN GALLEGOS

Address: _____

Phone#: 917.8921 Fax#: _____ E-mail: _____

Contractor: _____ Contact: _____

Address: _____

Phone#: _____ Fax#: _____ E-mail: _____

TYPE OF SUBMITTAL:

- ☐ DRAINAGE REPORT
- ☐ DRAINAGE PLAN 1st SUBMITTAL
- ☒ DRAINAGE PLAN RESUBMITTAL
- ☐ CONCEPTUAL G & D PLAN
- ☐ GRADING PLAN
- ☐ EROSION & SEDIMENT CONTROL PLAN (ESC)
- ☐ ENGINEER'S CERT (HYDROLOGY)
- ☐ CLOMR/LOMR
- ☐ TRAFFIC CIRCULATION LAYOUT (TCL)
- ☐ ENGINEER'S CERT (TCL)
- ☐ ENGINEER'S CERT (DRB SITE PLAN)
- ☐ ENGINEER'S CERT (ESC)
- ☐ SO-19
- ☐ OTHER (SPECIFY)

CHECK TYPE OF APPROVAL/ACCEPTANCE SOUGHT:

- ☐ SIA/FINANCIAL GUARANTEE RELEASE
- ☐ PRELIMINARY PLAT APPROVAL
- ☐ S. DEV. PLAN FOR SUB'D APPROVAL
- ☐ S. DEV. FOR BLDG. PERMIT APPROVAL
- ☐ SECTOR PLAN APPROVAL
- ☐ FINAL PLAT APPROVAL
- ☐ CERTIFICATE OF OCCUPANCY (PERM)
- ☐ CERTIFICATE OF OCCUPANCY (TCL TEMP)
- ☐ FOUNDATION PERMIT APPROVAL
- ☒ BUILDING PERMIT APPROVAL
- ☒ GRADING PERMIT APPROVAL
- ☐ PAVING PERMIT APPROVAL
- ☐ WORK ORDER APPROVAL
- ☐ GRADING CERTIFICATION
- ☐ SO-19 APPROVAL
- ☐ ESC PERMIT APPROVAL
- ☐ ESC CERT. ACCEPTANCE
- ☐ OTHER (SPECIFY)

WAS A PRE-DESIGN CONFERENCE ATTENDED: _____ Yes ☒ No _____ Copy Provided

DATE SUBMITTED: 7/22/15 By: _____

Requests for approvals of Site Development Plans and/or Subdivision Plats shall be accompanied by a drainage submittal. The particular nature, location, and scope to the proposed development defines the degree of drainage detail. One or more of the following levels of submittal may be required based on the following:

1. **Conceptual Grading and Drainage Plan:** Required for approval of Site Development Plans greater than five (5) acres and Sector Plans
2. **Drainage Plans:** Required for building permits, grading permits, paving permits and site plans less than five (5) acres
3. **Drainage Report:** Required for subdivision containing more than ten (10) lots or constituting five (5) acres or more
4. **Erosion and Sediment Control Plan:** Required for any new development and redevelopment site with 1-acre or more of land disturbing area, including project less than 1-acre than are part of a larger common plan of development

July 22, 2015

Ms. Rita Harmon
Senior Engineer
Hydrology Department
Public Works Department
City of Albuquerque

RE: Revised Grading Plan (C-18D012)
American Toyota
Albuquerque, New Mexico

Dear Ms. Harmon:

The purpose of this letter is to accompany the enclosed revised grading plan. The plan has been revised to accommodate your written comments dated 7/17/15. The following is a summary of your comment and the narrative as to how we addressed. The numbering corresponds to the comments in the letter

1. This is an informational comment, no action taken
2. We have labeled the pipes and added note #5 stating all pipes not labeled shall be 18".

The city standard details 2102 and 2206 have been added to the plan set to show how pipe and inlet/manholes are to be constructed,
3. We have labeled the storm tech systems
4. We have added note #6 stating all manifolds to be 24"
5. We have added the capacity of the inlets base upon the wier equation.
6. System#6 has been modified such that the inlet is connected to the existing line via a type c Manhole with a concrete baffle that will limit discharge once the desired water surface elevation is reached. This allows the system to completely fill prior to discharging.
7. System#5 has been modified such that the inlet is connected to the existing line via a type c Manhole with a concrete baffle that will limit discharge once the desired water surface elevation is reached. This allows the system to completely fill prior to discharging.
8. Systems 1,2,3 are filled via the roof drainage system. The grates and inlets have been added for nuisance flows from the garage area and to allow for cleaning. The systems will not be bypassed unless the water surface elevation exceeds the grate elevation, the invert of the inlet does not have negative impact on the operation of the system.

9. System #5 has been modified such that the inlet is adjacent to and .25' below the outfall of this basin, the system will completely fill and then the basin will discharge to eagle rock

Should you have any questions regarding this matter, please do not hesitate to call me.

Sincerely,



David Soule, PE
RIO GRANDE ENGINEERING
PO Box 93924
ALBUQUERQUE, NM 87199
321-9099

Enclosures

PROJECT INFORMATION	
ENGINEERED PRODUCT MANAGER:	PEGGY GRAHAM 720-982-6303 PEGGY.GRAHAM@ADS-PIPE.COM
ADS SALES REP:	PETER NICHOLS 505-301-5604 PETER.NICHOLS@ADS-PIPE.COM
PROJECT NO:	82394 REV3



ADVANCED DRAINAGE SYSTEMS, INC.



AMERICAN TOYOTA

ALBUQUERQUE, NM

STORMWATER CHAMBER SPECIFICATIONS

- CHAMBERS SHALL BE STORMTECH MC-4500 OR APPROVED EQUAL.
- CHAMBERS SHALL BE MANUFACTURED FROM VIRGIN, IMPACT-MODIFIED POLYPROPYLENE COPOLYMERS.
- CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORT PANELS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
- THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL, AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.
- CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- CHAMBERS SHALL BE DESIGNED AND ALLOWABLE LOADS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. THE CHAMBER MANUFACTURER SHALL SUBMIT THE FOLLOWING UPON REQUEST TO THE SITE DESIGN ENGINEER FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE:
 - A STRUCTURAL EVALUATION SEALED BY A REGISTERED PROFESSIONAL ENGINEER THAT DEMONSTRATES THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.95 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD, THE MINIMUM REQUIRED BY ASTM F2787 AND BY AASHTO FOR THERMOPLASTIC PIPE.
 - A STRUCTURAL EVALUATION SEALED BY A REGISTERED PROFESSIONAL ENGINEER THAT DEMONSTRATES THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET. THE 50 YEAR CREEP MODULUS DATA SPECIFIED IN ASTM F2418 MUST BE USED AS PART OF THE AASHTO STRUCTURAL EVALUATION TO VERIFY LONG-TERM PERFORMANCE.
 - STRUCTURAL CROSS SECTION DETAIL ON WHICH THE STRUCTURAL EVALUATION IS BASED.
- CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.

IMPORTANT - NOTES FOR THE BIDDING AND INSTALLATION OF MC-4500 CHAMBER SYSTEM

- STORMTECH MC-4500 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
- STORMTECH MC-4500 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
- CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR EXCAVATOR SITUATED OVER THE CHAMBERS.

STORMTECH RECOMMENDS 3 BACKFILL METHODS:

 - STONESHOOTER LOCATED OFF THE CHAMBER BED.
 - BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON THE FOUNDATION STONE OR SUBGRADE.
 - BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG BOOM HOE OR EXCAVATOR.
- THE FOUNDATION STONE SHALL BE LEVELED AND COMPACTED PRIOR TO PLACING CHAMBERS.
- JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
- MAINTAIN MINIMUM - 9" (230 mm) SPACING BETWEEN THE CHAMBER ROWS.
- INLET AND OUTLET MANIFOLDS MUST BE INSERTED A MINIMUM OF 12" (300 mm) INTO CHAMBER END CAPS.
- EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE 3/4-2" (20-50 mm) MEETING THE AASHTO M43 DESIGNATION OF #3 OR #4.
- STONE SHALL BE BROUGHT UP EVENLY AROUND CHAMBERS SO AS NOT TO DISTORT THE CHAMBER SHAPE. STONE DEPTHS SHOULD NEVER DIFFER BY MORE THAN 12" (300 mm) BETWEEN ADJACENT CHAMBER ROWS.
- STONE MUST BE PLACED ON THE TOP CENTER OF THE CHAMBER TO ANCHOR THE CHAMBERS IN PLACE AND PRESERVE ROW SPACING.
- ADS RECOMMENDS THE USE OF "FLEXSTORM CATCH IT" INSERTS DURING CONSTRUCTION FOR ALL INLETS TO PROTECT THE SUBSURFACE STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.

NOTES FOR CONSTRUCTION EQUIPMENT

- STORMTECH MC-4500 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
- THE USE OF EQUIPMENT OVER MC-4500 CHAMBERS IS LIMITED:
 - NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS.
 - NO RUBBER TIRED LOADER, DUMP TRUCK, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
 - WEIGHT LIMITS FOR CONSRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
- FULL 36" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING.

USE OF A DOZER TO PUSH EMBEDMENT STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO CHAMBERS AND IS NOT AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY USING THE "DUMP AND PUSH" METHOD ARE NOT COVERED UNDER THE STORMTECH STANDARD WARRANTY.

CONTACT STORMTECH AT 1-888-892-2694 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.

PROPOSED LAYOUT (SYSTEM #1)

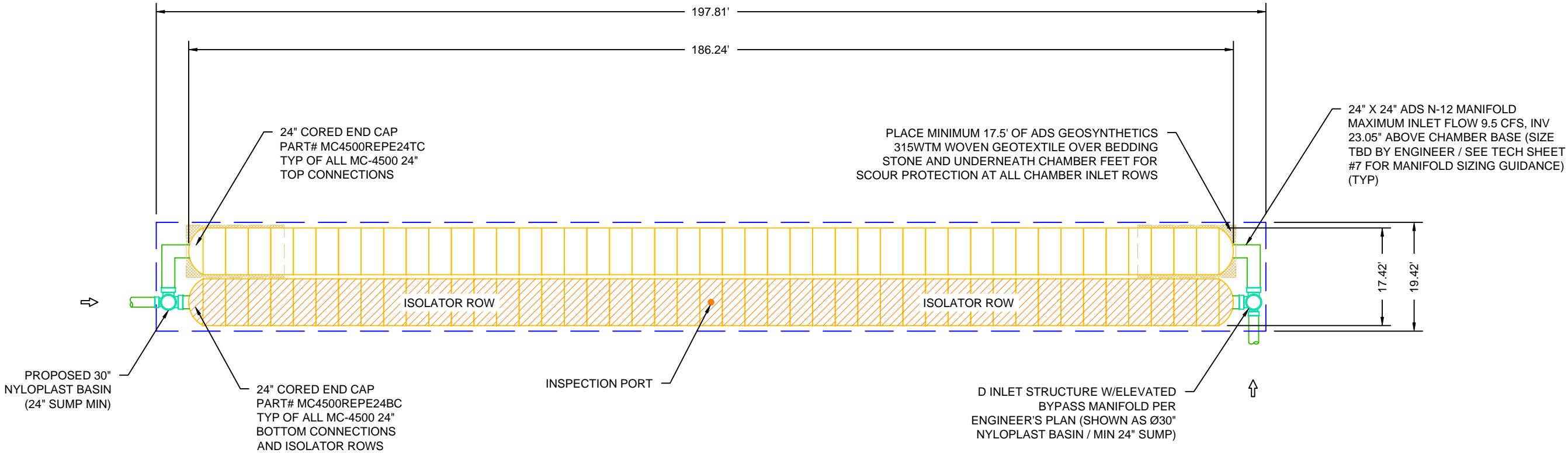
(90) STORMTECH MC-4500 CHAMBERS
(4) STORMTECH MC-4500 END CAPS
INSTALLED WITH 12" COVER STONE, 9" BASE STONE, 30% STONE VOID
INSTALLED SYSTEM VOLUME (PERIMETER STONE INCLUDED): 14,587 CF
AREA OF SYSTEM: 3,841 FT²
PERIMETER OF SYSTEM: 434 FT



PROPOSED ELEVATIONS (SYSTEM #1)

MAXIMUM ALLOWABLE GRADE (TOP OF PAVEMENT/UNPAVED):	5229.00
MINIMUM ALLOWABLE GRADE (UNPAVED WITH TRAFFIC):	5224.50
MINIMUM ALLOWABLE GRADE (BASE OF FLEXIBLE PAVEMENT):	5224.00
MINIMUM ALLOWABLE GRADE (TOP OF RIGID CONCRETE PAVEMENT):	5224.00
TOP OF STONE:	5223.00
TOP OF CHAMBER:	5222.00
24" TOP MANIFOLD INVERT:	5218.92
24" ISOLATOR ROW INVERT:	5217.19
BOTTOM OF CHAMBER:	5217.00
BOTTOM OF STONE:	5216.25

NOTES

- DUE TO THE ADAPTATION OF THIS CHAMBER SYSTEM TO SPECIFIC SITE AND DESIGN CONSTRAINTS, IT MAY BE NECESSARY TO CUT AND COUPLE ADDITIONAL PIPE TO STANDARD MANIFOLD COMPONENTS IN THE FIELD.
- THE SITE DESIGN ENGINEER MUST REVIEW ELEVATIONS AND IF NECESSARY ADJUST GRADING TO ENSURE THE CHAMBER COVER REQUIREMENTS ARE MET.



 70 INWOOD ROAD, SUITE 3 ROCKY HILL CT 06067 860-525-8188 888-892-2694 WWW.STORMTECH.COM	AMERICAN TOYOTA ALBUQUERQUE, NM	
	DATE: 12/30/14	DRAWN: WCM
	PROJECT #: 82394	CHECKED: GFI
4640 TRUEMAN BLVD HILLIARD, OH 43026 1-800-733-7473 	DESCRIPTION NEW STORAGE VOLUMES AND STONE VOID SYSTEM REMOVED 3 SYSTEMS ADDED	
REV 1/28/15 WCM KAP 3/16/15 WCM KWS 4/22/15 WCM KWS		CHK KAP KWS KWS
DRW WCM WCM WCM		REV
THIS DRAWING HAS BEEN PREPARED BASED ON INFORMATION PROVIDED TO ADS UNDER THE DIRECTION OF THE SITE DESIGN ENGINEER OR OTHER PROJECT REPRESENTATIVE. THE SITE DESIGN ENGINEER SHALL REVIEW THIS DRAWING PRIOR TO CONSTRUCTION. IT IS THE ULTIMATE RESPONSIBILITY OF THE SITE DESIGN ENGINEER TO ENSURE THAT THE PRODUCT(S) DEPICTED AND ALL ASSOCIATED DETAILS MEET ALL APPLICABLE LAWS, REGULATIONS, AND PROJECT REQUIREMENTS.		
SHEET 2 OF 11		

PROPOSED LAYOUT (SYSTEM #2)

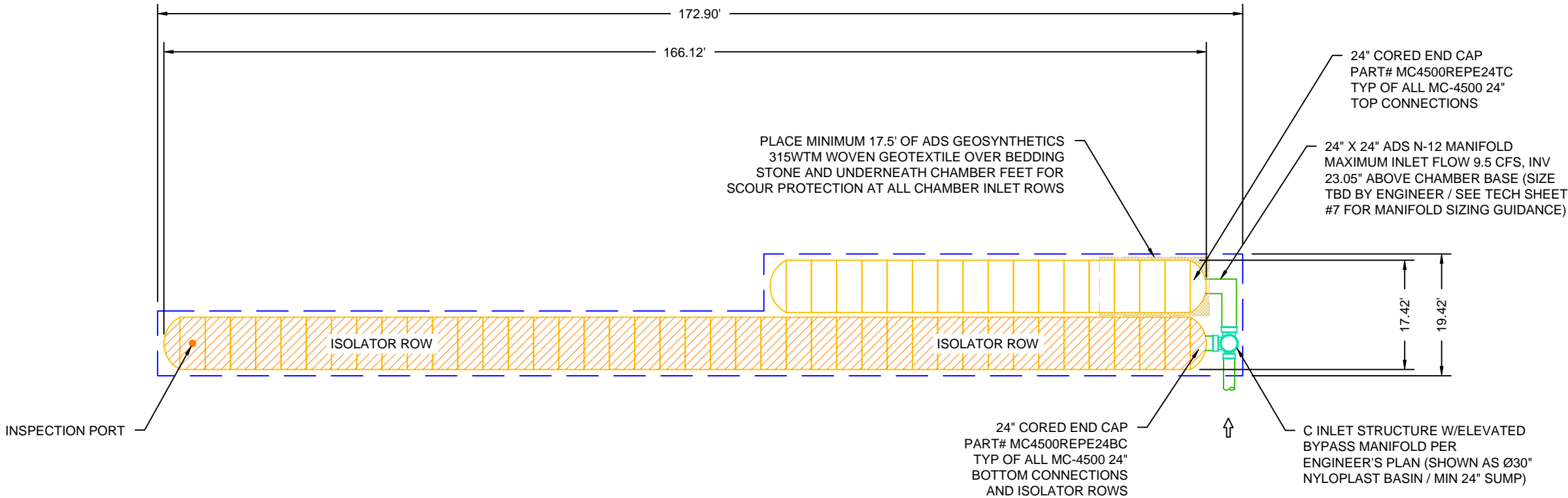
(56) STORMTECH MC-4500 CHAMBERS
(4) STORMTECH MC-4500 END CAPS
INSTALLED WITH 12" COVER STONE, 9" BASE STONE, 30% STONE VOID
INSTALLED SYSTEM VOLUME (PERIMETER STONE INCLUDED): 9,297 CF
AREA OF SYSTEM: 2,480 FT²
PERIMETER OF SYSTEM: 385 FT

PROPOSED ELEVATIONS (SYSTEM #2)

MAXIMUM ALLOWABLE GRADE (TOP OF PAVEMENT/UNPAVED):	5230.00
MINIMUM ALLOWABLE GRADE (UNPAVED WITH TRAFFIC):	5225.50
MINIMUM ALLOWABLE GRADE (BASE OF FLEXIBLE PAVEMENT):	5225.00
MINIMUM ALLOWABLE GRADE (TOP OF RIGID CONCRETE PAVEMENT):	5225.00
TOP OF STONE:	5224.00
TOP OF CHAMBER:	5223.00
24" TOP MANIFOLD INVERT:	5219.92
24" ISOLATOR ROW INVERT:	5218.19
BOTTOM OF CHAMBER:	5218.00
BOTTOM OF STONE:	5217.25

NOTES

- DUE TO THE ADAPTATION OF THIS CHAMBER SYSTEM TO SPECIFIC SITE AND DESIGN CONSTRAINTS, IT MAY BE NECESSARY TO CUT AND COUPLE ADDITIONAL PIPE TO STANDARD MANIFOLD COMPONENTS IN THE FIELD.
- THE SITE DESIGN ENGINEER MUST REVIEW ELEVATIONS AND IF NECESSARY ADJUST GRADING TO ENSURE THE CHAMBER COVER REQUIREMENTS ARE MET.



AMERICAN TOYOTA
ALBUQUERQUE, NM

DATE: 12/30/14
PROJECT #: 82394

DRAWN: WCM
CHECKED: GFI

REV	DRW	CHK	DESCRIPTION
1/28/15	WCM	KAP	NEW STORAGE VOLUMES AND STONE VOID
3/16/15	WCM	KWS	SYSTEM REMOVED
4/22/15	WCM	KWS	3 SYSTEMS ADDED

StormTech

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860-529-8188 | 888-892-2694 | WWW.STORMTECH.COM

4640 TRUEMAN BLVD
HILLIARD, OH 43026
1-800-733-7473

ADS

ADVANCED DRAINAGE SYSTEMS, INC.

020'40'

THIS DRAWING HAS BEEN PREPARED BASED ON INFORMATION PROVIDED TO ADS UNDER THE DIRECTION OF THE SITE DESIGN ENGINEER OR OTHER PROJECT REPRESENTATIVE. THE SITE DESIGN ENGINEER SHALL REVIEW THIS DRAWING PRIOR TO CONSTRUCTION. IT IS THE ULTIMATE RESPONSIBILITY OF THE SITE DESIGN ENGINEER TO ENSURE THAT THE PRODUCT(S) DEPICTED AND ALL ASSOCIATED DETAILS MEET ALL APPLICABLE LAWS, REGULATIONS, AND PROJECT REQUIREMENTS.

SHEET
3 OF 11

PROPOSED LAYOUT (SYSTEM #3)

(38) STORMTECH MC-4500 CHAMBERS
(2) STORMTECH MC-4500 END CAPS
INSTALLED WITH 12" COVER STONE, 9" BASE STONE, 30% STONE VOID
INSTALLED SYSTEM VOLUME (PERIMETER STONE INCLUDED): 6,232 CF
AREA OF SYSTEM: 1,654 FT²
PERIMETER OF SYSTEM: 341 FT

PROPOSED ELEVATIONS (SYSTEM #3)

MAXIMUM ALLOWABLE GRADE (TOP OF PAVEMENT/UNPAVED):	5230.00
MINIMUM ALLOWABLE GRADE (UNPAVED WITH TRAFFIC):	5225.50
MINIMUM ALLOWABLE GRADE (BASE OF FLEXIBLE PAVEMENT):	5225.00
MINIMUM ALLOWABLE GRADE (TOP OF RIGID CONCRETE PAVEMENT):	5225.00
TOP OF STONE:	5224.00
TOP OF CHAMBER:	5223.00
24" ISOLATOR ROW INVERT:	5218.19
BOTTOM OF CHAMBER:	5218.00
BOTTOM OF STONE:	5217.25

NOTES

- DUE TO THE ADAPTATION OF THIS CHAMBER SYSTEM TO SPECIFIC SITE AND DESIGN CONSTRAINTS, IT MAY BE NECESSARY TO CUT AND COUPLE ADDITIONAL PIPE TO STANDARD MANIFOLD COMPONENTS IN THE FIELD.
- THE SITE DESIGN ENGINEER MUST REVIEW ELEVATIONS AND IF NECESSARY ADJUST GRADING TO ENSURE THE CHAMBER COVER REQUIREMENTS ARE MET.

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40'
20'
0'

AMERICAN TOYOTA
ALBUQUERQUE, NM

DATE: 12/30/14
PROJECT #: 82394

DRAWN: WCM
CHECKED: GFI

DESCRIPTION

NEW STORAGE VOLUMES AND STONE VOID

SYSTEM REMOVED

3 SYSTEMS ADDED

REV

1/28/15

3/16/15

4/22/15

DRW

WCM

WCM

WCM

CHK

KAP

KWS

KWS

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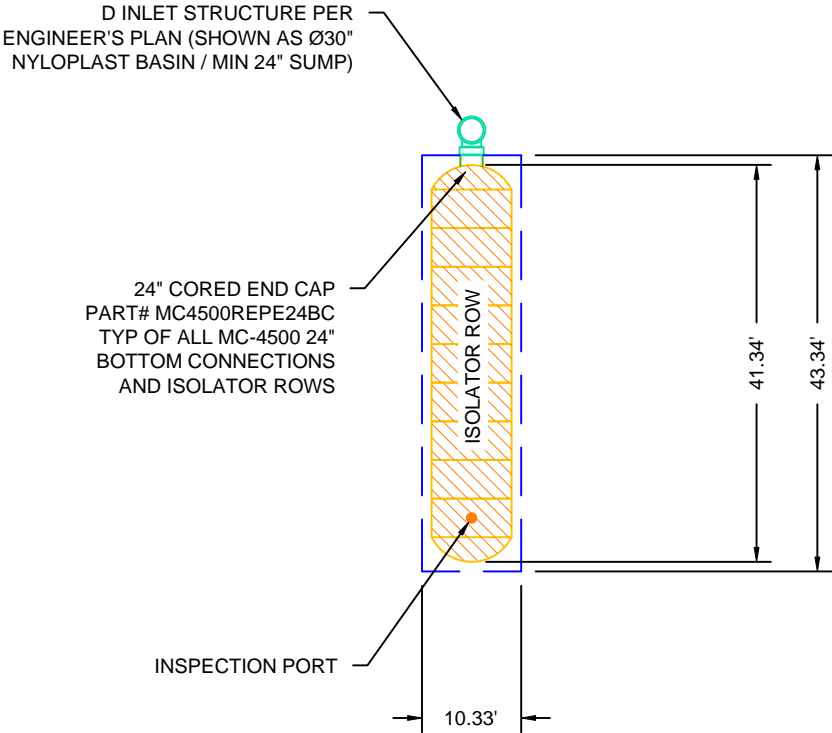
4 OF 11

PROPOSED LAYOUT (SYSTEM #4)

(9) STORMTECH MC-4500 CHAMBERS
(2) STORMTECH MC-4500 END CAPS
INSTALLED WITH 12" COVER STONE, 9" BASE STONE, 30% STONE VOID
INSTALLED SYSTEM VOLUME (PERIMETER STONE INCLUDED): 1,628 CF
AREA OF SYSTEM: 448 FT²
PERIMETER OF SYSTEM: 107 FT

PROPOSED ELEVATIONS (SYSTEM #4)

MAXIMUM ALLOWABLE GRADE (TOP OF PAVEMENT/UNPAVED):	5218.25
MINIMUM ALLOWABLE GRADE (UNPAVED WITH TRAFFIC):	5213.75
MINIMUM ALLOWABLE GRADE (BASE OF FLEXIBLE PAVEMENT):	5213.25
MINIMUM ALLOWABLE GRADE (TOP OF RIGID CONCRETE PAVEMENT):	5213.25
TOP OF STONE:	5212.25
TOP OF CHAMBER:	5211.25
24" ISOLATOR ROW INVERT:	5206.44
BOTTOM OF CHAMBER:	5206.25
BOTTOM OF STONE:	5205.50



NOTES

- DUE TO THE ADAPTATION OF THIS CHAMBER SYSTEM TO SPECIFIC SITE AND DESIGN CONSTRAINTS, IT MAY BE NECESSARY TO CUT AND COUPLE ADDITIONAL PIPE TO STANDARD MANIFOLD COMPONENTS IN THE FIELD.
- THE SITE DESIGN ENGINEER MUST REVIEW ELEVATIONS AND IF NECESSARY ADJUST GRADING TO ENSURE THE CHAMBER COVER REQUIREMENTS ARE MET.
- THE SITE DESIGN ENGINEER MUST REVIEW THE PROXIMITY OF THE CHAMBERS TO THE RETAINING WALL AND CONSIDER EFFECTS OF POSSIBLE SATURATED SOILS ON THE RETAINING WALL'S INTEGRITY.

4640 TRUEMAN BLVD
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ADVANCED DRAINAGE SYSTEMS, INC.

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860-529-8188 | 888-892-2694 | WWW.STORMTECH.COM

AMERICAN TOYOTA
ALBUQUERQUE, NM

DATE: 12/30/14
DRAWN: WCM
PROJECT #: 82394
CHECKED: GFI

DESCRIPTION

NEW STORAGE VOLUMES AND STONE VOID

SYSTEM REMOVED

3 SYSTEMS ADDED

REV

1/28/15

3/16/15

4/22/15

DRW

WCM

WCM

WCM

CHK

KAP

KWS

KWS

THIS DRAWING HAS BEEN PREPARED BASED ON INFORMATION PROVIDED TO ADS UNDER THE DIRECTION OF THE SITE DESIGN ENGINEER OR OTHER PROJECT REPRESENTATIVE. THE SITE DESIGN ENGINEER SHALL REVIEW THIS DRAWING PRIOR TO CONSTRUCTION. IT IS THE ULTIMATE RESPONSIBILITY OF THE SITE DESIGN ENGINEER TO ENSURE THAT THE PRODUCT(S) DEPICTED AND ALL ASSOCIATED DETAILS MEET ALL APPLICABLE LAWS, REGULATIONS, AND PROJECT REQUIREMENTS.

SHEET

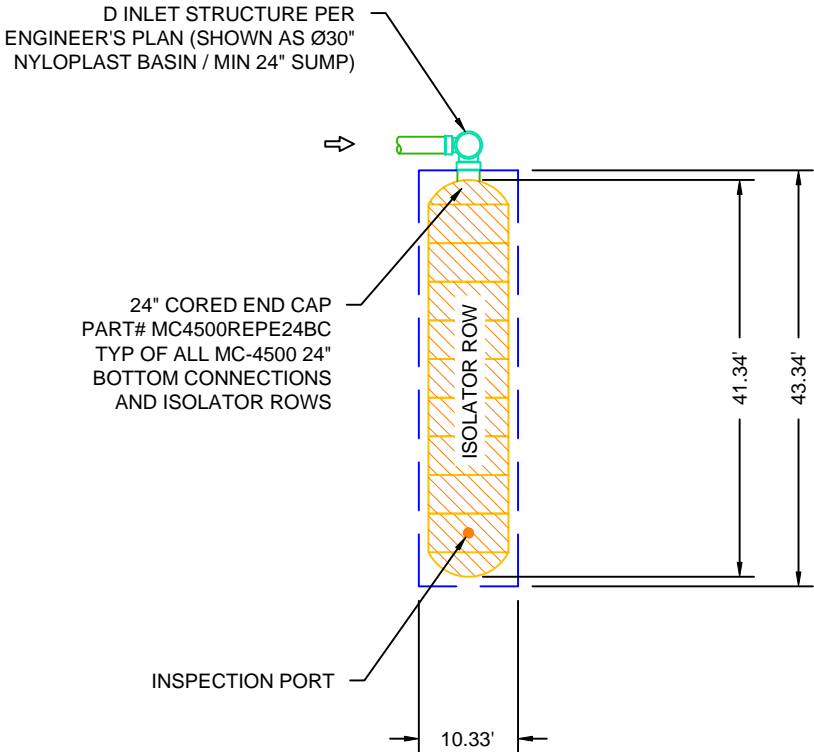
5 OF 11

PROPOSED LAYOUT (SYSTEM #5)

(9) STORMTECH MC-4500 CHAMBERS
(2) STORMTECH MC-4500 END CAPS
INSTALLED WITH 12" COVER STONE, 9" BASE STONE, 30% STONE VOID
INSTALLED SYSTEM VOLUME (PERIMETER STONE INCLUDED): 1,628 CF
AREA OF SYSTEM: 448 FT²
PERIMETER OF SYSTEM: 107 FT

PROPOSED ELEVATIONS (SYSTEM #5)

MAXIMUM ALLOWABLE GRADE (TOP OF PAVEMENT/UNPAVED):	5214.35
MINIMUM ALLOWABLE GRADE (UNPAVED WITH TRAFFIC):	5209.85
MINIMUM ALLOWABLE GRADE (BASE OF FLEXIBLE PAVEMENT):	5209.35
MINIMUM ALLOWABLE GRADE (TOP OF RIGID CONCRETE PAVEMENT):	5209.35
TOP OF STONE:	5208.35
TOP OF CHAMBER:	5207.35
24" ISOLATOR ROW INVERT:	5202.54
BOTTOM OF CHAMBER:	5202.35
BOTTOM OF STONE:	5201.60



NOTES

- DUE TO THE ADAPTATION OF THIS CHAMBER SYSTEM TO SPECIFIC SITE AND DESIGN CONSTRAINTS, IT MAY BE NECESSARY TO CUT AND COUPLE ADDITIONAL PIPE TO STANDARD MANIFOLD COMPONENTS IN THE FIELD.
- THE SITE DESIGN ENGINEER MUST REVIEW ELEVATIONS AND IF NECESSARY ADJUST GRADING TO ENSURE THE CHAMBER COVER REQUIREMENTS ARE MET.

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HILLIARD, OH 43026
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ADS

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860-529-8188 | 888-892-2694 | WWW.STORMTECH.COM

40'
20'
0'

REV	DRW	CHK	DESCRIPTION				
			1/28/15	WCM	KAP	NEW STORAGE VOLUMES AND STONE VOID	
			3/16/15	WCM	KWS	SYSTEM REMOVED	
			4/22/15	WCM	KWS	3 SYSTEMS ADDED	

AMERICAN TOYOTA
ALBUQUERQUE, NM

DATE: 12/30/14
DRAWN: WCM
PROJECT #: 82394
CHECKED: GFI

SHEET
6 OF 11

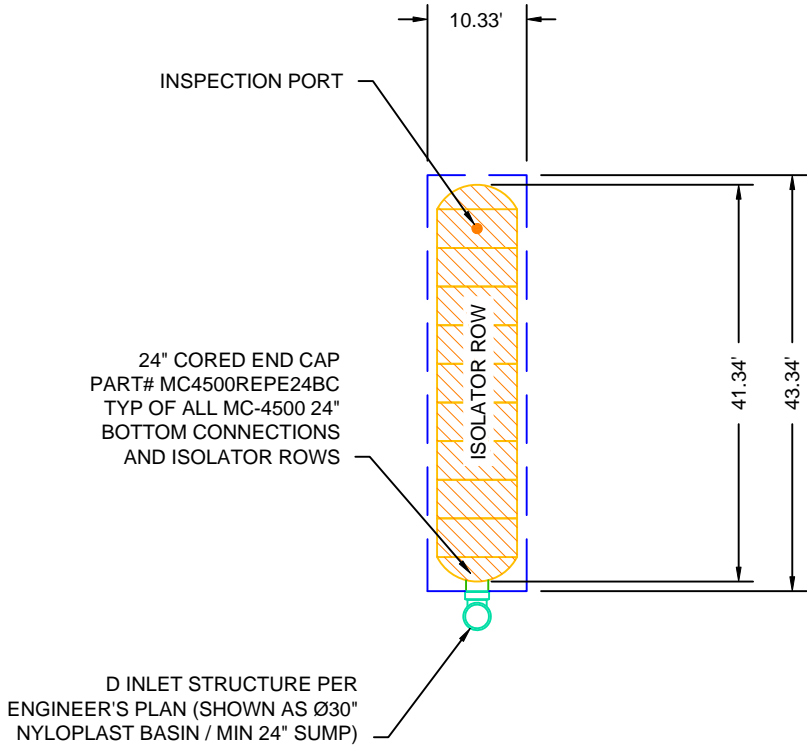
THIS DRAWING HAS BEEN PREPARED BASED ON INFORMATION PROVIDED TO ADS UNDER THE DIRECTION OF THE SITE DESIGN ENGINEER OR OTHER PROJECT REPRESENTATIVE. THE SITE DESIGN ENGINEER SHALL REVIEW THIS DRAWING PRIOR TO CONSTRUCTION. IT IS THE ULTIMATE RESPONSIBILITY OF THE SITE DESIGN ENGINEER TO ENSURE THAT THE PRODUCT(S) DEPICTED AND ALL ASSOCIATED DETAILS MEET ALL APPLICABLE LAWS, REGULATIONS, AND PROJECT REQUIREMENTS.

PROPOSED LAYOUT (SYSTEM #6)

(9) STORMTECH MC-4500 CHAMBERS
(2) STORMTECH MC-4500 END CAPS
INSTALLED WITH 12" COVER STONE, 9" BASE STONE, 30% STONE VOID
INSTALLED SYSTEM VOLUME (PERIMETER STONE INCLUDED): 1,628 CF
AREA OF SYSTEM: 448 FT²
PERIMETER OF SYSTEM: 107 FT

PROPOSED ELEVATIONS (SYSTEM #6)

MAXIMUM ALLOWABLE GRADE (TOP OF PAVEMENT/UNPAVED):	5215.50
MINIMUM ALLOWABLE GRADE (UNPAVED WITH TRAFFIC):	5211.00
MINIMUM ALLOWABLE GRADE (BASE OF FLEXIBLE PAVEMENT):	5210.50
MINIMUM ALLOWABLE GRADE (TOP OF RIGID CONCRETE PAVEMENT):	5210.50
TOP OF STONE:	5209.50
TOP OF CHAMBER:	5208.50
24" ISOLATOR ROW INVERT:	5203.69
BOTTOM OF CHAMBER:	5203.50
BOTTOM OF STONE:	5202.75



NOTES

- DUE TO THE ADAPTATION OF THIS CHAMBER SYSTEM TO SPECIFIC SITE AND DESIGN CONSTRAINTS, IT MAY BE NECESSARY TO CUT AND COUPLE ADDITIONAL PIPE TO STANDARD MANIFOLD COMPONENTS IN THE FIELD.
- THE SITE DESIGN ENGINEER MUST REVIEW ELEVATIONS AND IF NECESSARY ADJUST GRADING TO ENSURE THE CHAMBER COVER REQUIREMENTS ARE MET.
- THE SITE DESIGN ENGINEER MUST REVIEW THE PROXIMITY OF THE CHAMBERS TO THE SLOPE AND CONSIDER EFFECTS OF POSSIBLE SATURATED SOILS ON THE SLOPE'S INTEGRITY.

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ADVANCED DRAINAGE SYSTEMS, INC.

4DS

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REV

1/28/15

3/16/15

4/22/15

DRW

WCM

WCM

WCM

CHK

KAP

KWS

KWS

DESCRIPTION

NEW STORAGE VOLUMES AND STONE VOID

SYSTEM REMOVED

3 SYSTEMS ADDED

AMERICAN TOYOTA
ALBUQUERQUE, NM

DATE: 12/30/14
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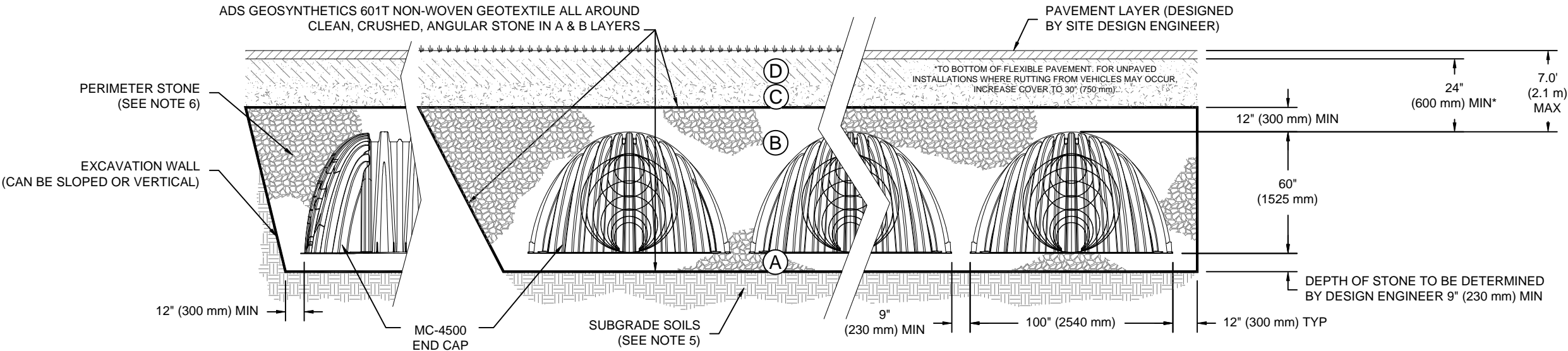
7 OF 11

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ACCEPTABLE FILL MATERIALS: STORMTECH MC-4500 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 FLEXIBLE 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 24" (600 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 M145 ¹ A-1, A-2-4, A-3 OR AASHTO M43 ¹ 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 24" (600 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 12" (300 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS.
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 3/4-2 INCH (20-50 mm)	AASHTO M43 ¹ 3, 4	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 3/4-2 INCH (20-50 mm)	AASHTO M43 ¹ 3, 4	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE. ^{2 3}

- 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 M43) STONE".
 - STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 9" (230 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 RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.



NOTES:

- MC-4500 CHAMBERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM F2418 "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- MC-4500 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 SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.

AMERICAN TOYOTA
ALBUQUERQUE, NM

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CHECKED: GFI

DESCRIPTION

NEW STORAGE VOLUMES AND STONE VOID

SYSTEM REMOVED

3 SYSTEMS ADDED

CHK

DRW

REV

1/28/15

3/16/15

4/22/15

WCM

WCM

WCM

KAP

KWS

KWS

StormTech

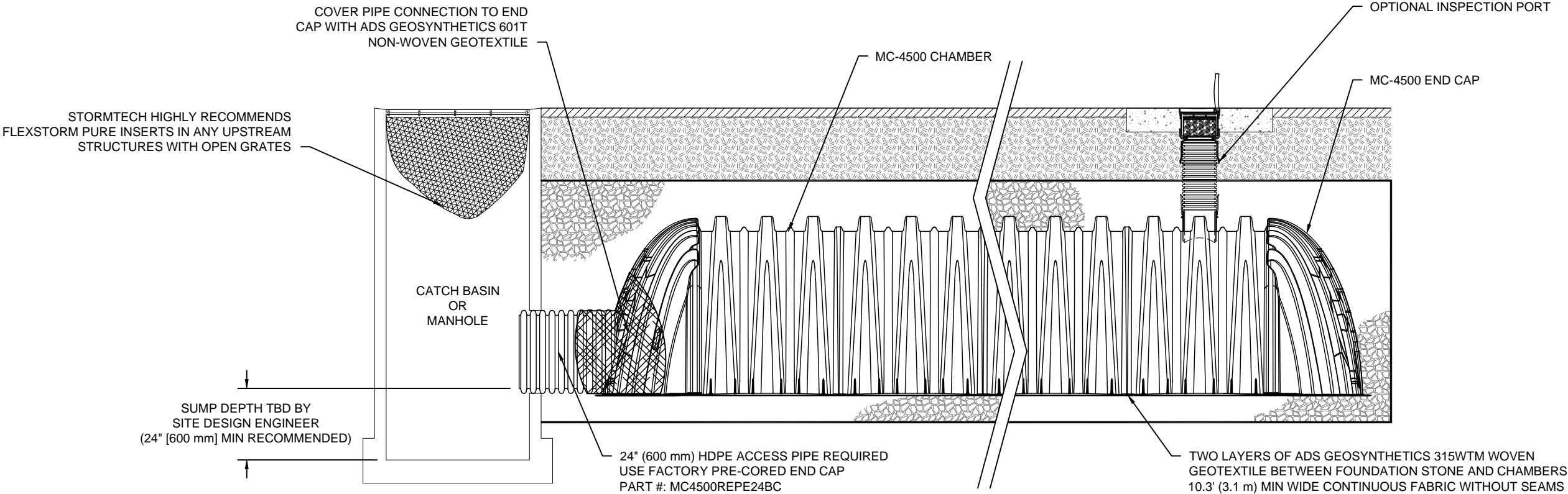
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SHEET
8 OF 11



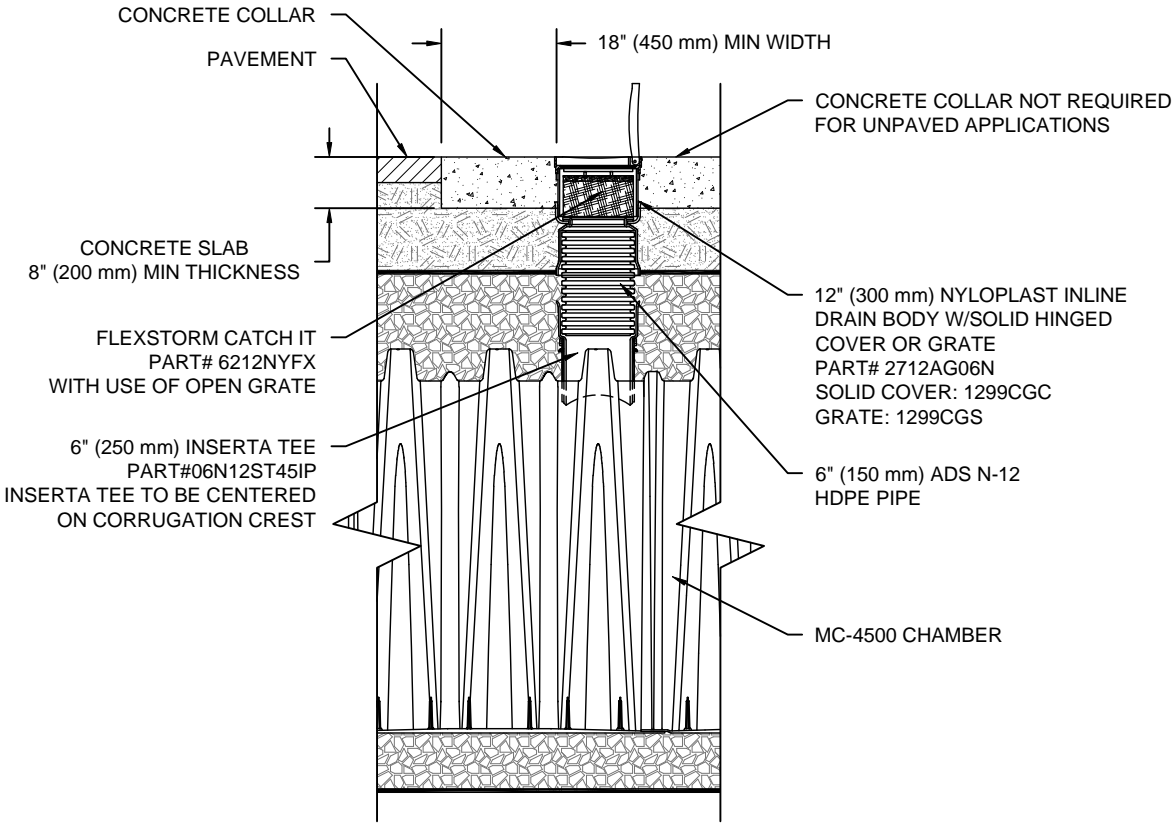
MC-4500 ISOLATOR ROW DETAIL
NTS

INSPECTION & MAINTENANCE



- STEP 1) INSPECT ISOLATOR ROW FOR SEDIMENT
- A. INSPECTION PORTS (IF PRESENT)
- A.1. REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN
- A.2. REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED
- A.3. USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
- A.4. LOWER A CAMERA INTO ISOLATOR ROW FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
- A.5. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- B. ALL ISOLATOR ROWS
- B.1. REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW
- B.2. USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW THROUGH OUTLET PIPE
- i) MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY
- ii) FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE
- B.3. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- STEP 2) CLEAN OUT ISOLATOR ROW USING THE JETVAC PROCESS
- A. A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45" (1.1 m) OR MORE IS PREFERRED
- B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN
- C. VACUUM STRUCTURE SUMP AS REQUIRED
- STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS.
- STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

NOTES

1. INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.
2. CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.

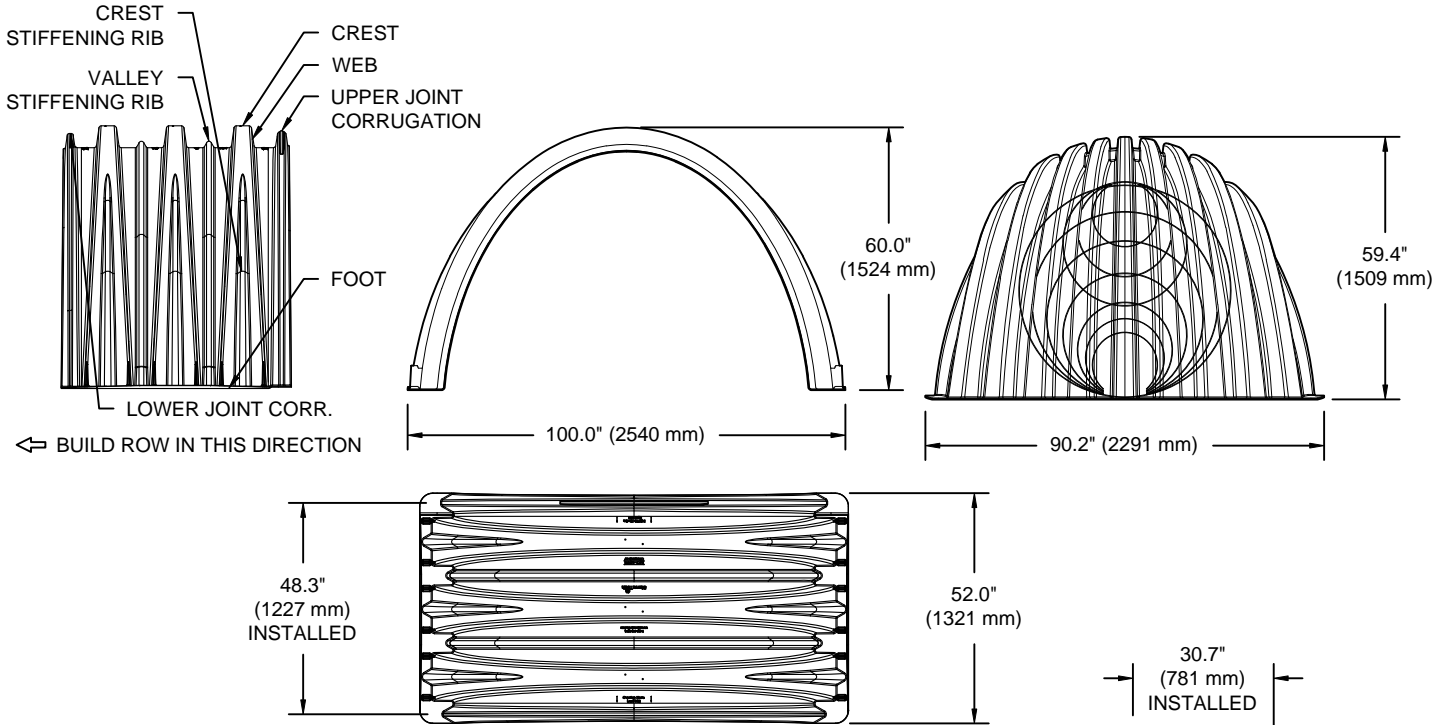


MC-4500 6" INSPECTION PORT DETAIL
NTS

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						ALBUQUERQUE, NM			
						DATE: 12/30/14			
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						PROJECT #: 82394			
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		1/28/15	WCM	KAP		NEW STORAGE VOLUMES AND STONE VOID			
		3/16/15	WCM	KMS		SYSTEM REMOVED			
		4/22/15	WCM	KMS		3 SYSTEMS ADDED			
		</							

MC-4500 TECHNICAL SPECIFICATION

NTS



NOMINAL CHAMBER SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	100.0" X 60.0" X 48.3"	(2540 mm X 1524 mm X 1227 mm)
CHAMBER STORAGE	106.5 CUBIC FEET	(3.01 m³)
MINIMUM INSTALLED STORAGE*	162.6 CUBIC FEET	(4.60 m³)
WEIGHT	130.0 lbs.	(59.0 kg)

NOMINAL END CAP SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	90.2" X 59.4" X 30.7"	(2291 mm X 1509 mm X 781 mm)
END CAP STORAGE	35.7 CUBIC FEET	(1.01 m³)
MINIMUM INSTALLED STORAGE*	108.7 CUBIC FEET	(3.08 m³)
WEIGHT	135.0 lbs.	(61.2 kg)

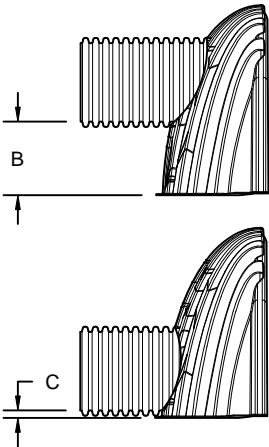
*ASSUMES 12" (305 mm) STONE ABOVE, 9" (229 mm) STONE FOUNDATION AND BETWEEN CHAMBERS, 12" (305 mm) STONE PERIMETER IN FRONT OF END CAPS AND 40% STONE POROSITY.

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	B	C
MC4500REPE06T	6" (150 mm)	42.54" (1.081 m)	---
MC4500REPE06B		---	0.86" (22 mm)
MC4500REPE08T	8" (200 mm)	40.50" (1.029 m)	---
MC4500REPE08B		---	1.01" (26 mm)
MC4500REPE10T	10" (250 mm)	38.37" (975 mm)	---
MC4500REPE10B		---	1.33" (34 mm)
MC4500REPE12T	12" (300 mm)	35.69" (907 mm)	---
MC4500REPE12B		---	1.55" (39 mm)
MC4500REPE15T	15" (375 mm)	32.72" (831 mm)	---
MC4500REPE15B		---	1.70" (43 mm)
MC4500REPE18TC	18" (450 mm)	29.36" (746 mm)	---
MC4500REPE18BC		---	1.97" (50 mm)
MC4500REPE24TC	24" (600 mm)	23.05" (585 mm)	---
MC4500REPE24BC		---	2.26" (57 mm)
MC4500REPE30BC	30" (750 mm)	---	2.95" (75 mm)
MC4500REPE36BC	36" (900 mm)	---	3.25" (83 mm)
MC4500REPE42BC	42" (1050 mm)	---	3.55" (90 mm)

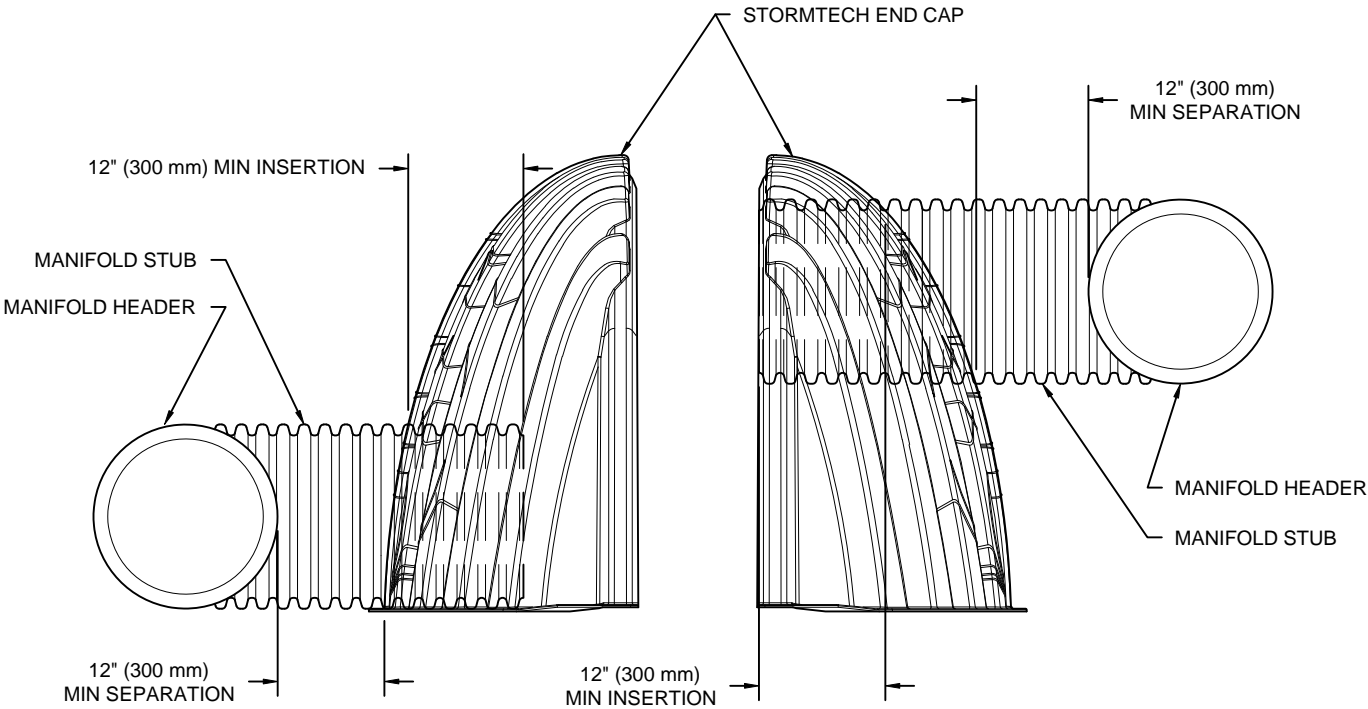
NOTE: ALL DIMENSIONS ARE NOMINAL

CUSTOM PRECORED INVERTS ARE AVAILABLE UPON REQUEST. INVENTORIED MANIFOLDS INCLUDE 12-24" (300-600 mm) SIZE ON SIZE AND 15-48" (375-1200 mm) ECCENTRIC MANIFOLDS. CUSTOM INVERT LOCATIONS ON THE MC-4500 END CAP CUT IN THE FIELD ARE NOT RECOMMENDED FOR PIPE SIZES GREATER THAN 10" (250 mm) THE INVERT LOCATION IN COLUMN 'B' ARE THE HIGHEST POSSIBLE FOR THE PIPE SIZE.



MC-SERIES END CAP INSERTION DETAIL

NTS



NOTE: MANIFOLD STUB MUST BE LAID HORIZONTAL FOR A PROPER FIT IN END CAP OPENING.

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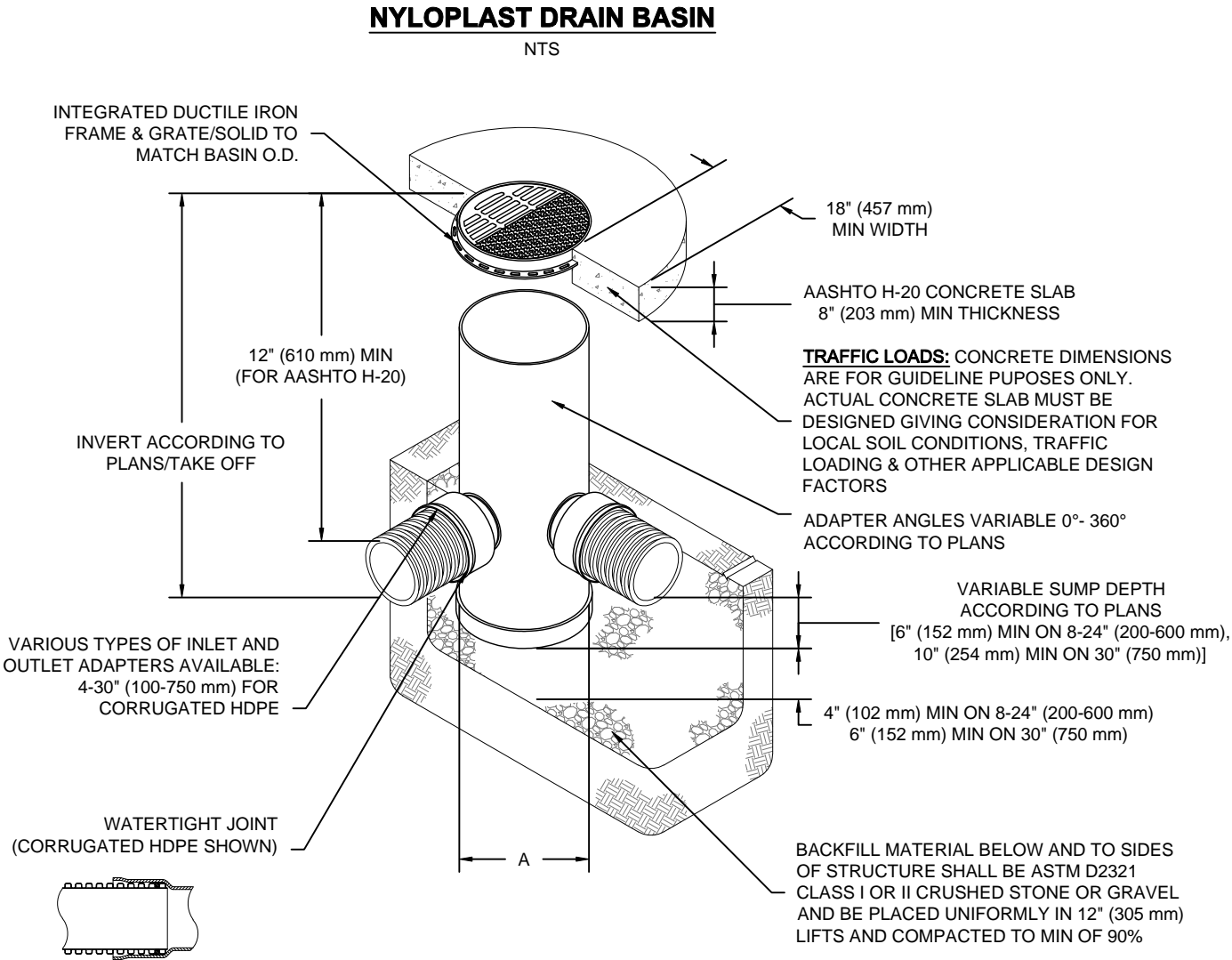
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REV	DRW	CHK	DESCRIPTION
1/28/15	WCM	KAP	NEW STORAGE VOLUMES AND STONE VOID
3/16/15	WCM	KWS	SYSTEM REMOVED
4/22/15	WCM	KWS	3 SYSTEMS ADDED

AMERICAN TOYOTA ALBUQUERQUE, NM	DATE: 12/30/14	DRAWN: WCM	CHECKED: GFI
PROJECT #: 82394			




NOTES


- 1. 8-30" (200-750 mm) GRATES/SOLID COVERS SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05
- 2. 12-30" (300-750 mm) FRAMES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05
- 3. DRAIN BASIN TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS
- 4. DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE (ADS & HANCOR DUAL WALL) & SDR 35 PVC
- 5. FOR COMPLETE DESIGN AND PRODUCT INFORMATION: WWW.NYLOPLAST-US.COM
- 6. TO ORDER CALL: 800-821-6710

A	PART #	GRATE/SOLID COVER OPTIONS		
8" (200 mm)	2808AG	PEDESTRIAN LIGHT DUTY	STANDARD LIGHT DUTY	SOLID LIGHT DUTY
10" (250 mm)	2810AG	PEDESTRIAN LIGHT DUTY	STANDARD LIGHT DUTY	SOLID LIGHT DUTY
12" (300 mm)	2812AG	PEDESTRIAN AASHTO H-10	STANDARD AASHTO H-20	SOLID AASHTO H-20
15" (375 mm)	2815AG	PEDESTRIAN AASHTO H-10	STANDARD AASHTO H-20	SOLID AASHTO H-20
18" (450 mm)	2818AG	PEDESTRIAN AASHTO H-10	STANDARD AASHTO H-20	SOLID AASHTO H-20
24" (600 mm)	2824AG	PEDESTRIAN AASHTO H-10	STANDARD AASHTO H-20	SOLID AASHTO H-20
30" (750 mm)	2830AG	PEDESTRIAN AASHTO H-20	STANDARD AASHTO H-20	SOLID AASHTO H-20

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ADVANCED DRAINAGE SYSTEMS, INC.



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BUFORD, GA 30518
PHN (770) 932-2443
FAX (770) 932-2490
www.nyloplast-us.com

AMERICAN TOYOTA
ALBUQUERQUE, NM

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DESCRIPTION

NEW STORAGE VOLUMES AND STONE VOID
SYSTEM REMOVED
3 SYSTEMS ADDED

CHK

WCM	KAP
WCM	KWS
WCM	KWS

DRW

WCM	KAP
WCM	KWS
WCM	KWS

REV

1/28/15	WCM	KAP
3/16/15	WCM	KWS
4/22/15	WCM	KWS

DESCRIPTION

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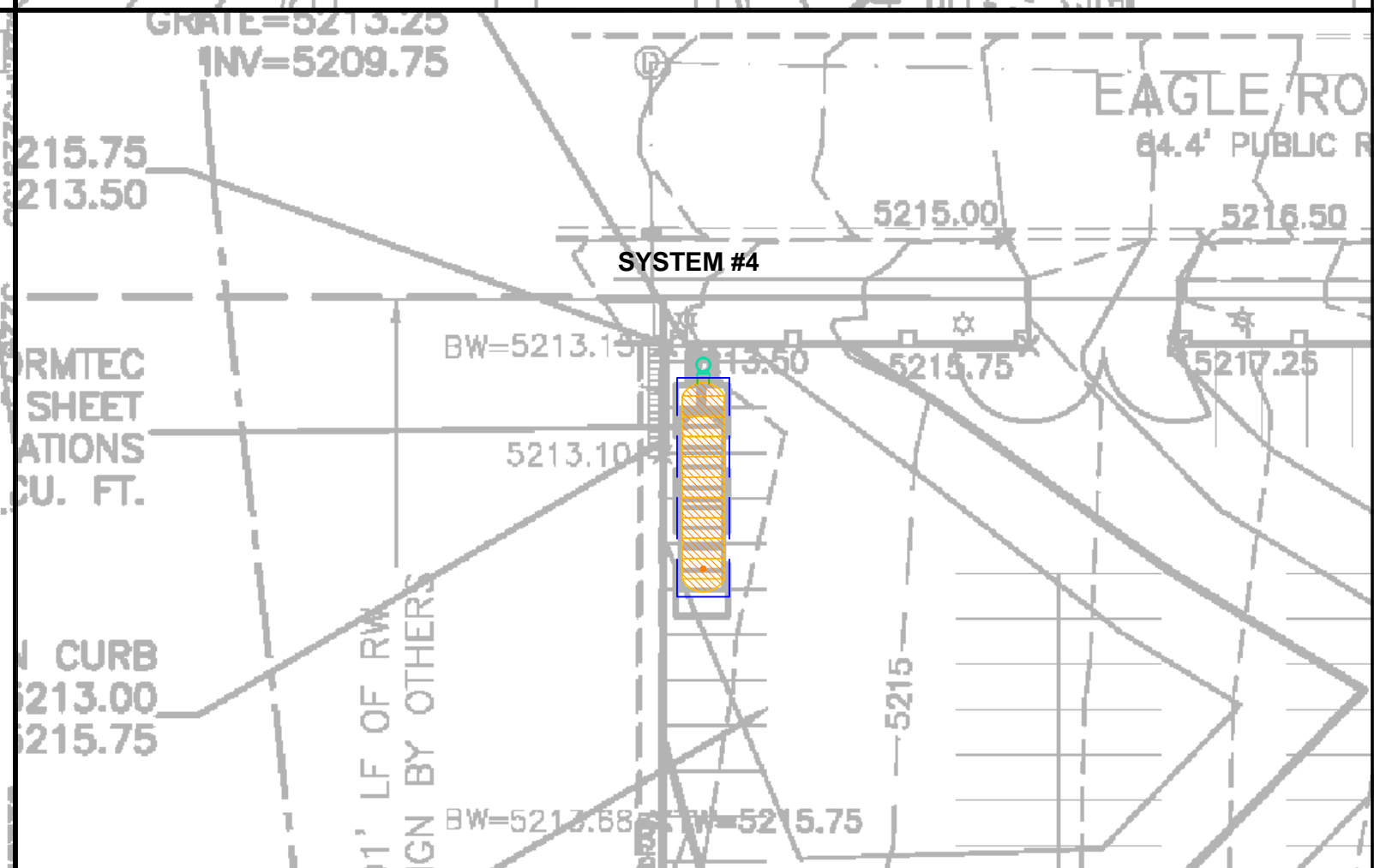
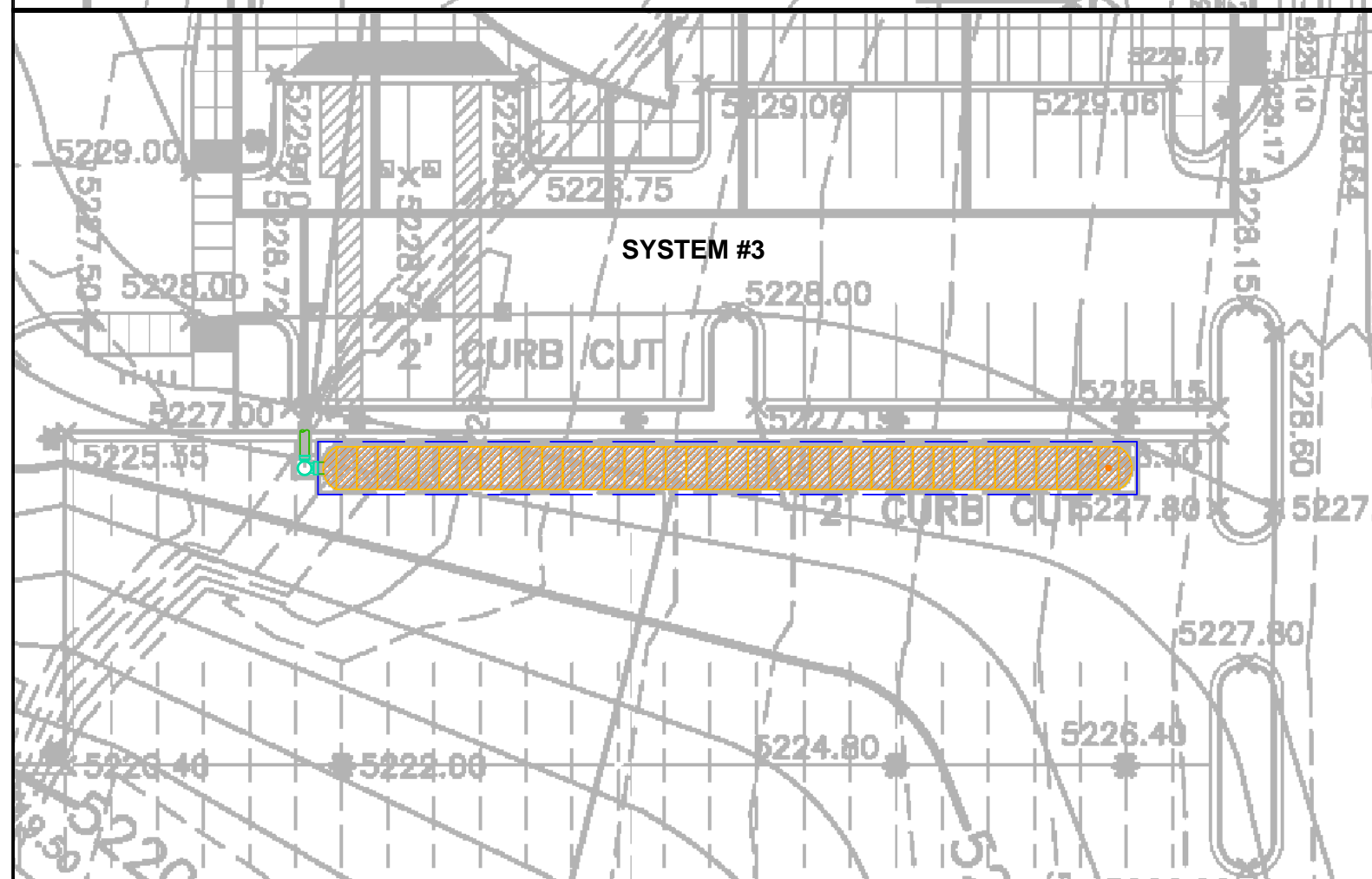
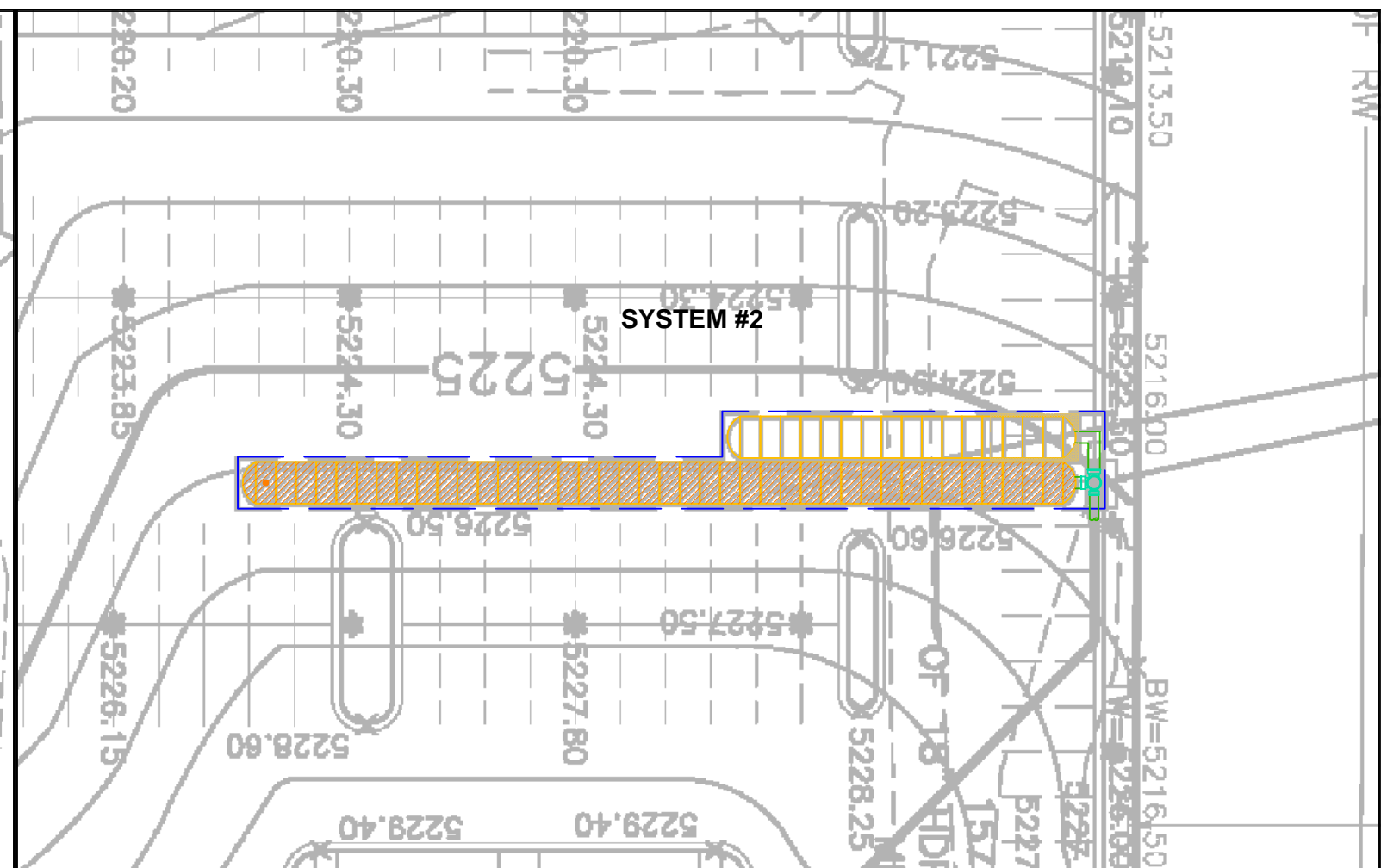
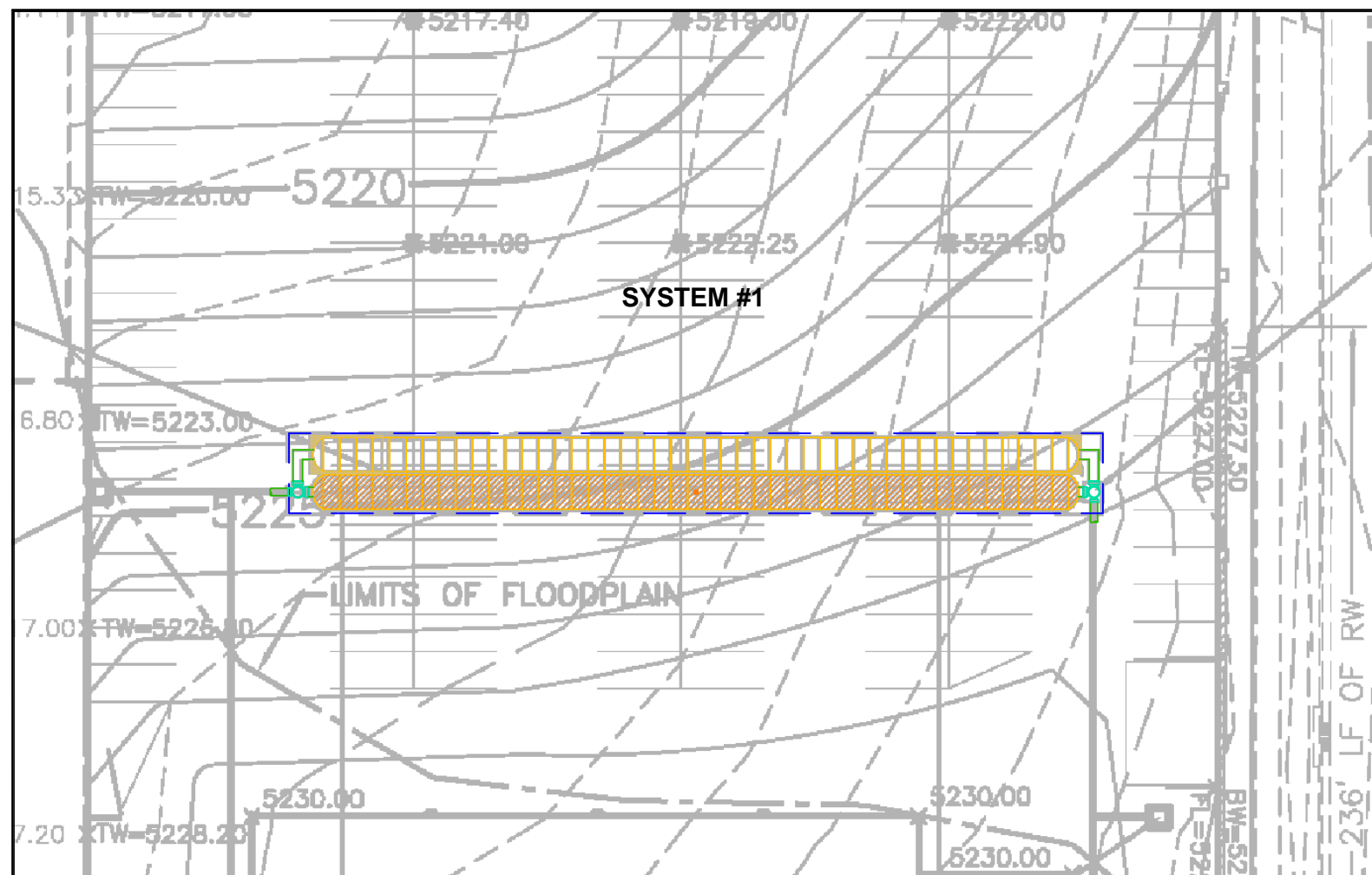
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WCM	KWS
WCM	KWS

DRW

WCM	KAP
WCM	KWS
WCM	KWS

REV

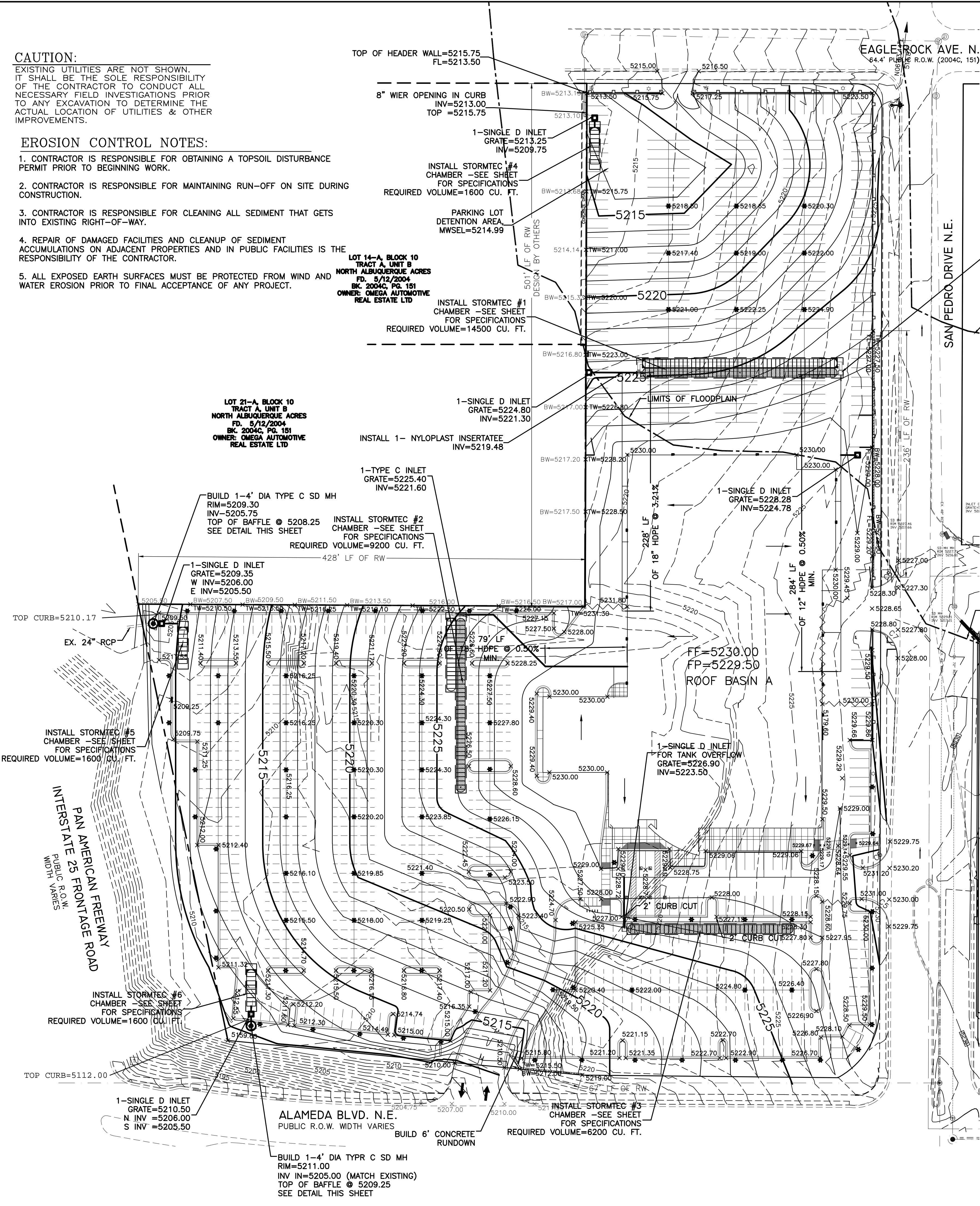
1/28/15	WCM	KAP
3/16/15	WCM	KWS
4/22/15	WCM	KWS
		</



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.

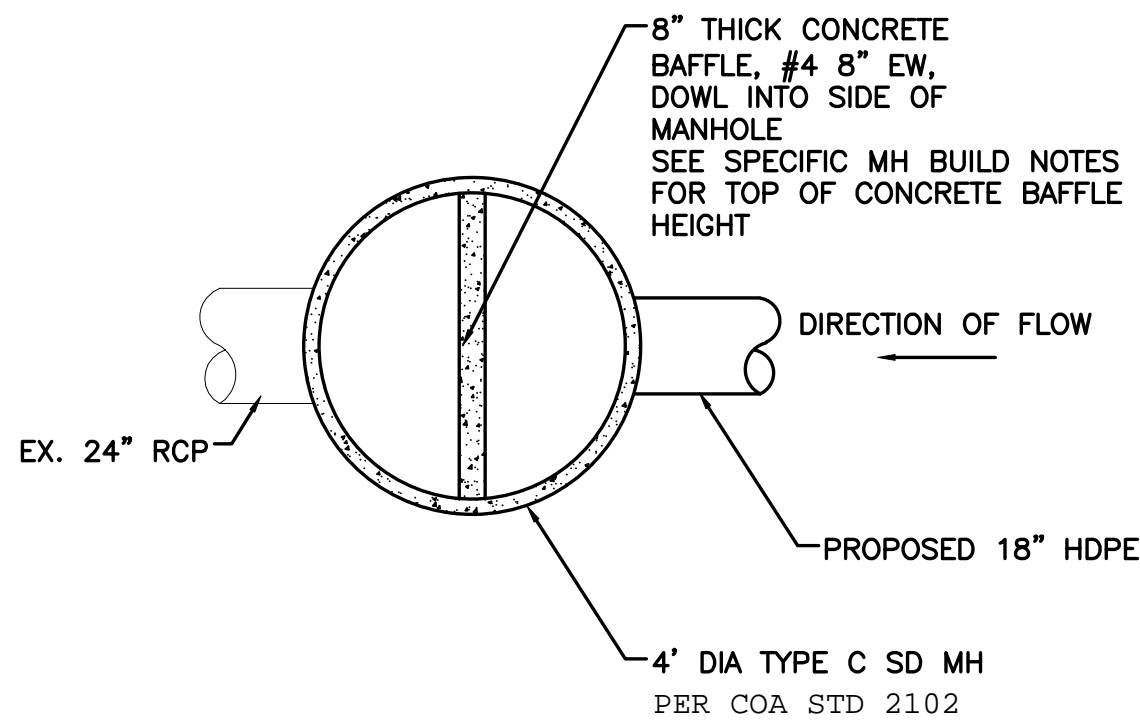
EROSION CONTROL NOTES:

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.

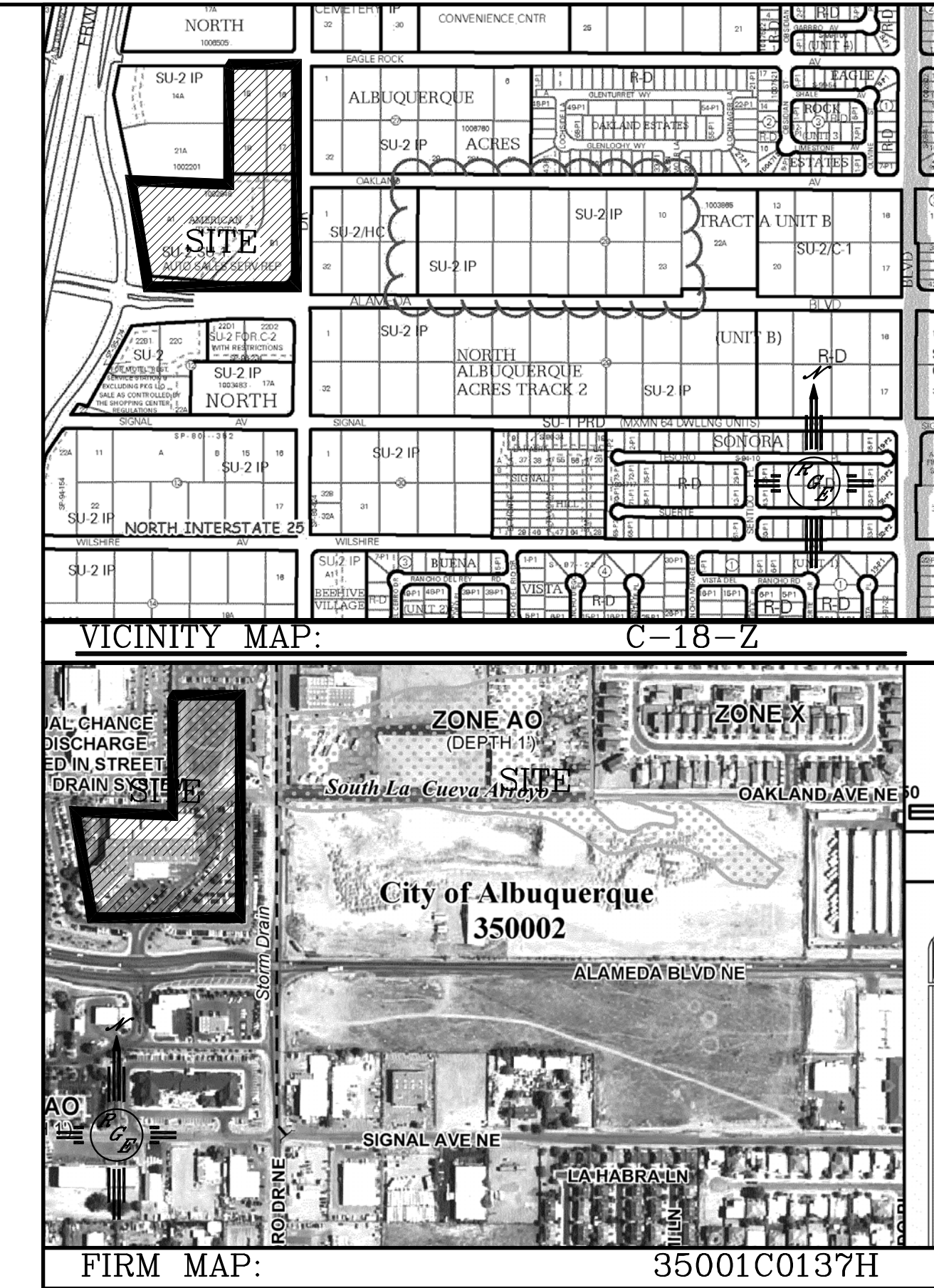


BENCH MARK INFORMATION

Elevations shown hereon are referenced to Albuquerque Geographic Reference System Station "10-C18". Published elevation of station is 5222.09 ft., NAVD 1988 datum. NM State
Plain coordinates: N=1,524,123.885, E=1,542,565.263, NAD 1983 Datum.



CONCRETE BAFFEL DETAIL IN MH
NTS



LEGAL DESCRIPTION:

TRACT A-1-A, AMERICAN TOYOTA SUBDIVISION

NOTES:

1. ALL SPOT ELEVATIONS REPRESENT FLOWLINE ELEVATION UNLESS OTHERWISE NOTED.
2. ALL CURB AND GUTTER TO 6" HEADER UNLESS OTHERWISE NOTED.
3. ALL RETAINING WALL DESIGN SHALL BE BY OTHERS.
4. ALL LANDSCAPE MEDIANS WILL BE DEPRESSED 8" FROM FLOW LINE AND 1' CURB OPENING PROVIDED ON THE HIGH SIDE, FOR WATER QUALITY.
5. ALL STORM DRAIN NOT LABELED ON PLAN SHALL BE 18" HDPE.
6. ALL STORMTEC MANIFOLDS SHALL BE 24".
7. TYPE D INLETS PER COA STD 2206

LEGEND

- 5414--- EXISTING CONTOUR
- 5415--- EXISTING INDEX CONTOUR
- 5414--- PROPOSED CONTOUR
- 5415--- PROPOSED INDEX CONTOUR
- SLOPE TIE---
- X 4048.25 EXISTING SPOT ELEVATION
- X 4048.25 PROPOSED SPOT ELEVATION
- BOUNDARY---
- CENTERLINE---
- RIGHT-OF-WAY---
- PROPOSED CURB AND GUTTER---
- EXISTING CURB AND GUTTER---
- PROPOSED SIDEWALK---
- PROPOSED SETBACK---
- PROPOSED LOT LINE---
- PROPOSED SCREEN WALL---
- PROPOSED RETAINING WALL---
- LIMITS OF FLOODPLAIN---

ROUGH GRADING APPROVAL

DATE

ENGINEER'S SEAL	AMERICAN TOYOTA	DRAWN BY WCWJ
		DATE 7-22-15
DAVID SOULE P.E. #14522	GRADING AND DRAINAGE PLAN <i>Rio Grande Engineering</i> 1806 CENTRAL AVENUE SE SUITE 201 ALBUQUERQUE, NM 87106 (505) 872-0999	21403-LAYOUT-1-25-14
		SHEET # — JOB # 21403