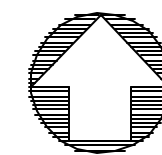
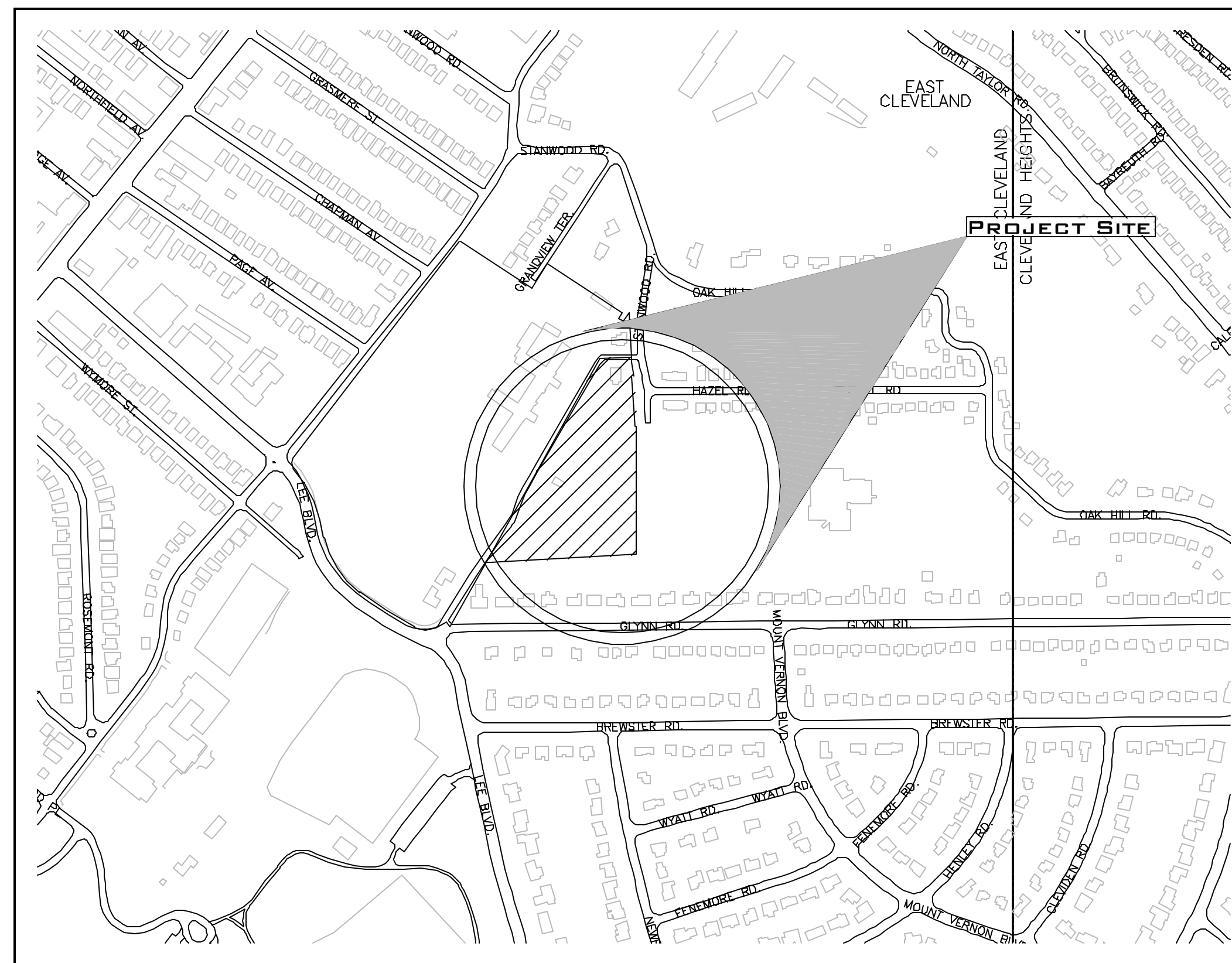


IMPROVEMENT PLANS FOR MCGREGOR INDEPENDENT LIVING

THE CITY OF EAST CLEVELAND, COUNTY
OF CUYAHOGA AND STATE OF OHIO



VICINITY MAP
SCALE: 1" = 400'

David Pietrantone

DAVID PIETRANTONE P.E. #61756



2/18/2021
DATE

INDEX TO DRAWINGS

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SITE PLAN	C3.01-C3.03
SPEED TABLE PLAN ALTERNATE 8	C3.04
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MARK	DATE	PURPOSE
	08/28/2020	80% SET
	10/15/2020	PRICING UPDATE
	11/02/2020	PERMIT
	2/18/2021	NECRSD

McGregor
SENIOR INDEPENDENT LIVING
VOLUME 1: NEW SENIOR APARTMENT BUILDING
14860 PRIVATE DRIVE, EAST CLEVELAND, OHIO 44112



PROJECT NO.: 2019.25

TITLE
TITLE PAGE



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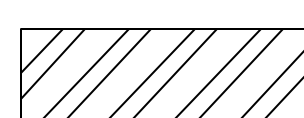




DRAWING NUMBER:

C1.01

SITE DEMOLITION NOTES:

- 1 CONTRACTOR SHALL SAWCUT EXISTING ASPHALT PAVEMENT AND CURB. CONTRACTOR SHALL PROVIDE A CLEAN SMOOTH EDGE AND ENSURE THE INTEGRITY OF THE PAVEMENT TO REMAIN.
- 2 SAWCUT AND REMOVE CURB. CONTRACTOR SHALL PROVIDE SMOOTH CLEAN EDGE AND ENSURE INTEGRITY OF PAVEMENT TO REMAIN.
- 3 FENCE TO BE REMOVED. CONTRACTOR TO REMOVE FENCE, FENCE POST AND POST FOUNDATIONS.
- 4 OVERHEAD LINES TO BE REMOVED OR RELOCATED. CONTRACTOR TO COORDINATE WITH UTILITY COMPANIES PRIOR TO ANY CONSTRUCTION.
- 5 STORM STRUCTURE (CATCH BASIN, CURB INLET, YARD DRAIN) TO BE REMOVED. CONTRACTOR SHALL REMOVE STRUCTURE AND CONNECTED STORM SEWERS. CONTRACTOR SHALL VERIFY NO ACTIVE CONNECTIONS ARE UPSTREAM OF REMOVED CATCH BASIN. CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY ACTIVE CONNECTIONS UPSTREAM BEFORE STORM SEWER REMOVAL.
- 6 CATCH BASIN TO BE REMOVED. CATCH BASIN SHALL REMAIN IN PLACE UNTIL NEW CURB INLET IS READY TO BE INSTALLED. EXISTING CONNECTION SHALL REMAIN IN PLACE AND BE REUSED FOR PROPOSED CURB INLET.
- 7 CATCH BASIN TO BE REMAIN. CATCH BASIN SHALL REMAIN IN PLACE AND ACTIVE. STORM SEWER TO BE REMOVED AFTER NEW STORM SEWER CONNECTION IS INSTALLED.
- 8 GAS WELL VENT TO BE REMOVED. CONTRACTOR TO REMOVE EXISTING GAS WELL VENT AND EXTEND VENT OUTSIDE OF THE PROPOSED PARKING LOT. CONTRACTOR TO COORDINATE WITH EAST CLEVELAND FIRE DEPARTMENT AND THE OHIO DEPARTMENT OF NATURAL RESOURCES PRIOR TO CONSTRUCTION.

SITE DEMOLITION LEGEND:

-  STRUCTURE TO BE REMOVED.
-  PAVEMENT (CONCRETE, ASPHALT OR GRAVEL) TO BE REMOVED - SAWCUT ALL PAVEMENTS & SIDEWALKS AT NEAREST CONTROL JOINT WHERE EXISTING PAVEMENT & SIDEWALKS SHALL REMAIN.
-  TREES TO BE REMOVED
-  LIGHT POLE TO BE REMOVED
-  CURB TO BE REMOVED
-  STORM SEWER TO BE REMOVED

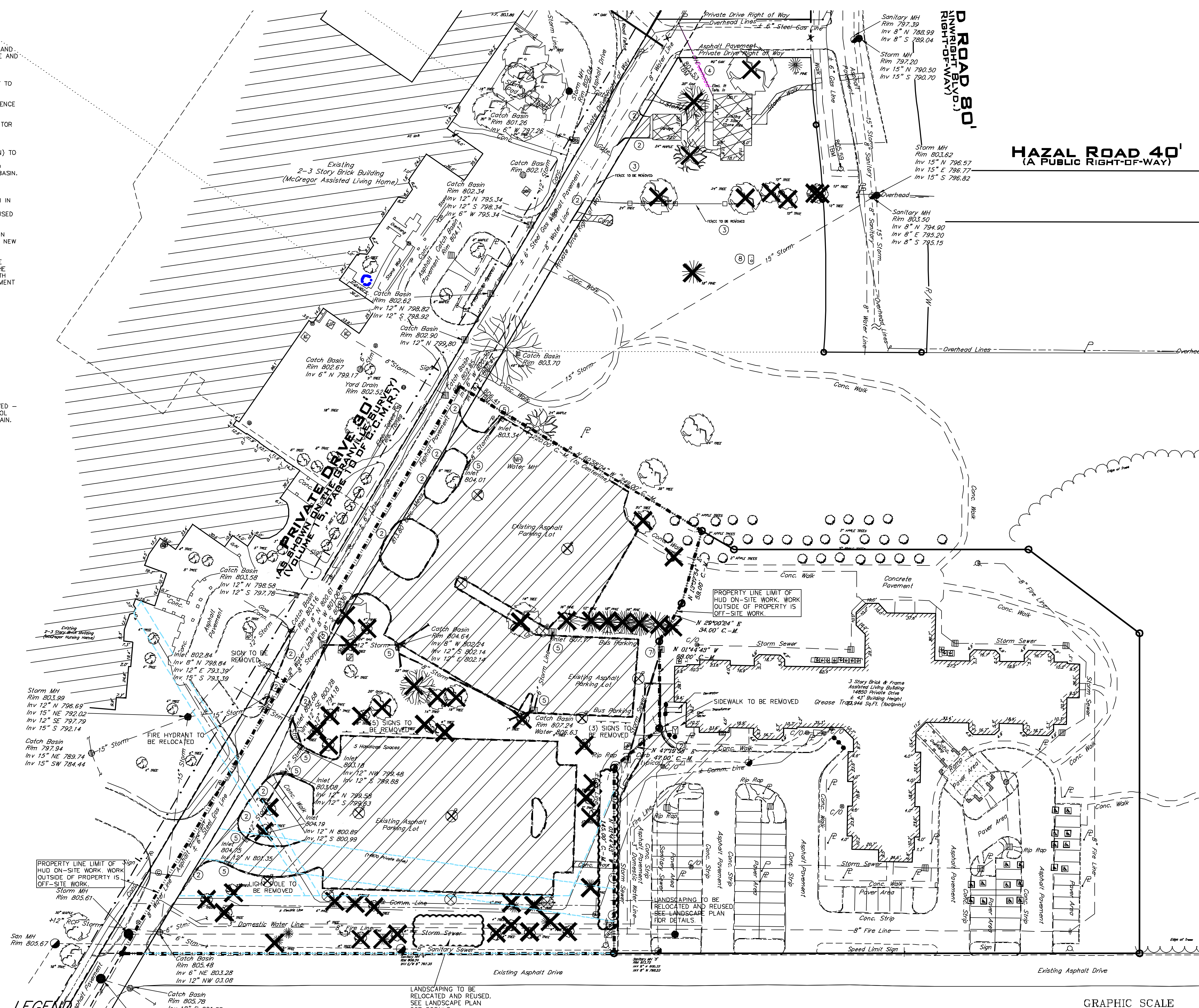
PHASED DEMOLITION AND CONSTRUCTION

PROPOSED DEVELOPMENT SHALL BE DEMOLISHED AND CONSTRUCTED IN TWO PHASES. PRIOR TO CONSTRUCTION CONTRACTOR SHALL PROVIDE THE OWNER A PROPOSED SCHEDULE TO CONFIRM APPROPRIATE PHASING.









































PHASE I: THE DEMOLITION OF THE EXISTING PARKING AREA FOR THE INSTALLATION OF THE SOUTHERN PARKING LOT INDICATED AS PART OF PHASE I ON SHEET C3.01. THE DEMOLITION OF THE EXISTING HOUSE AND THE CONSTRUCTION OF THE NORTH PARKING LOT ADJACENT TO STANWOOD ROAD AS SHOWN ON SHEET C3.01. THE CONSTRUCTION OF THE 4 ADA PARKING SPACES WEST OF THE SOUTH PARKING LOT AS SHOWN ON SHEET C3.01. ALL UTILITY CONNECTIONS THAT PASS BELOW THE SOUTH PARKING LOT OF PHASE I SHALL BE INSTALLED AS PART OF PHASE I.

PHASE II: THE DEMOLITION OF A PORTION OF THE EXISTING MIDDLE PARKING LOT AND THE CONSTRUCTION OF THE PROPOSED BUILDING. THE REMAINDER OF THE SOUTH PARKING LOT AND PAVEMENT EAST OF THE PROPOSED BUILDING NEAR THE EXISTING ASSISTED LIVING FACILITY.

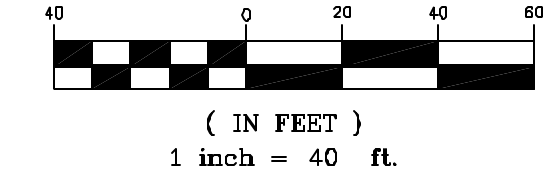
PHASE III: AFTER THE SOUTH PARKING LOT IS COMPLETED. THE PARKING AREA IMMEDIATELY NORTH OF THE PROPOSED BUILDING SHALL BE REMOVED AND REPLACED AS SHOWN ON SHEET C3.01.



LEGEND

<ul style="list-style-type: none">  = Monument Box Found  = Iron Pin or Pipe Found  = 5/8" Iron Pin Set and Capped Riverstone Company Dudley PS6747  = P.K. Nail  = Gas Meter  = Gas Valve  = Utility Pole  = Light Pole  = Guy Anchor & Line  = Electric Box  = Cable Box  = Ballard 	<ul style="list-style-type: none">  = Spot Elevation Tag  = Hydrant  = Water Service Valve  = Water Valve  = Water Meter  = Reducer  = Storm Manhole  = Sanitary Manhole  = Catch Inlet  = Sanitary Manhole  = Catch Basin  = Round Curb Inlet  = Cleanout/Test Tee 	<ul style="list-style-type: none">  = Ex. Parcel line  = Original Sublot Line  = Centerline  = Property Line  = Right-of-way Line  = Easement Line  = Railroad Tracks  = Electric Line  = Gas Line  = Sanitary/Combination Sewer  = Storm Sewer  = Waterline  = Fence Line (Wooden)  = Fence Line (Chain-Link)  = Guardrail 	<ul style="list-style-type: none"> Ac. Acres Adj. Adjacent Asp. Asphalt B.F. Basement Floor Calc./C. Calculated CB Catch Basin C.C.M.R. Cuyahoga County Map Records R/W Right-of-way C.L.F. Chain-link Fence Clr. Clears Conc. Concrete Conn. Connection D.H. Drill Hole D.I.W.M. Ductile Iron Water Main Elec. Electric Enr. Encroaches Ex. Existing F.F. Finished Floor 	<ul style="list-style-type: none"> L.C.A. Limited Common Area Meas./M. Measured MH Manhole Obs. Observed Fig. Page P.P.N. Permanent Parcel Number P Property Line Rec./R. Record R/W Right-of-way San. Sanitary S.F. Square Feet S/L Sublot Str. Storm T.B.M. Temporary Bench Mark To Be Removed Tele. Telephone T.F. Top Footer Vol. Volume Wat. Water
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GRAPHIC SCALE



RIVERSTONE

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MARK	DATE	PURPOSE
	08/28/2020	8% SET
	10/15/2020	PRICING UPDATE
	11/02/2020	PERMIT
	2/18/2021	NECRS3

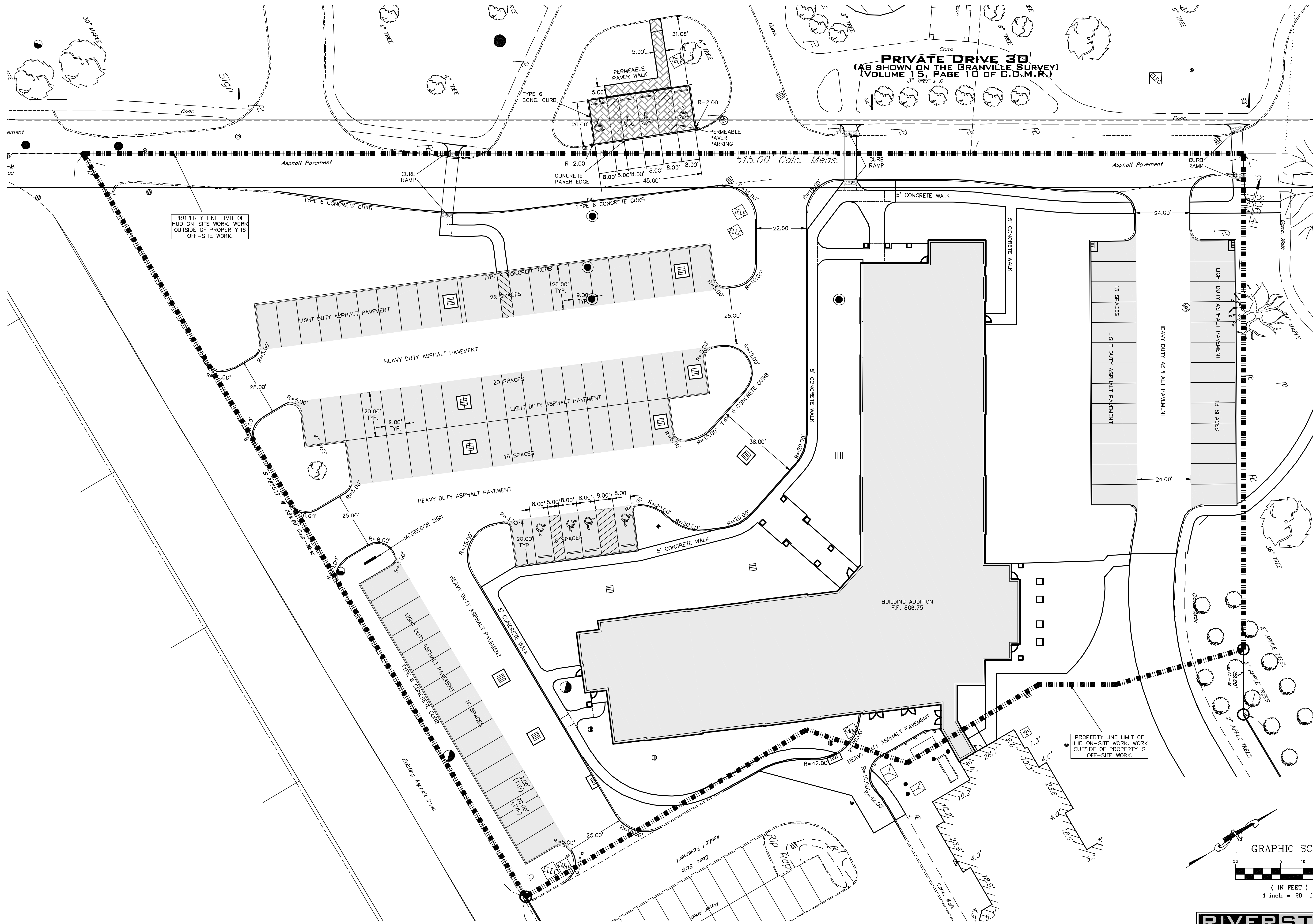
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VOLUME I: NEW SENIOR APARTMENT BUILDING
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PROJECT NO: 2019.25
 TITLE: **SITE DEMOLITION PLAN**

DRAWING NUMBER: **C2.02**
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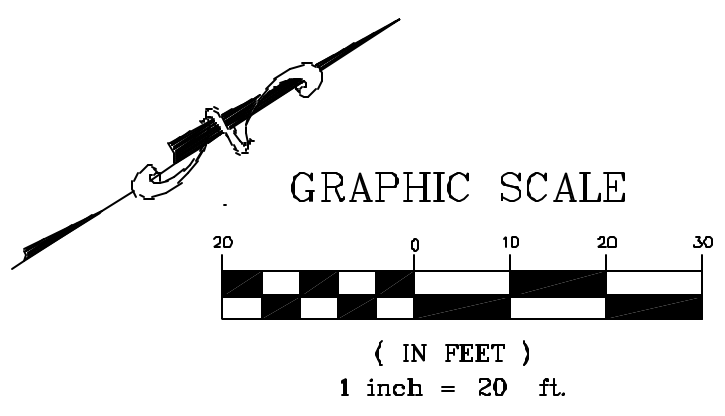
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PRIVATE DRIVE 30'
 (AS SHOWN ON THE GRANVILLE SURVEY)
 (VOLUME 15, PAGE 10 OF D.D.M.R.)
 3" TREE x 6

PROPERTY LINE LIMIT OF
 HUD ON-SITE WORK. WORK
 OUTSIDE OF PROPERTY IS
 OFF-SITE WORK.

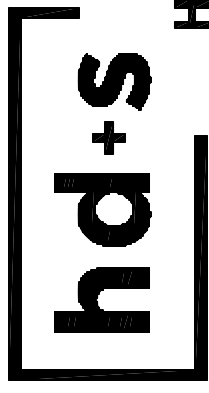
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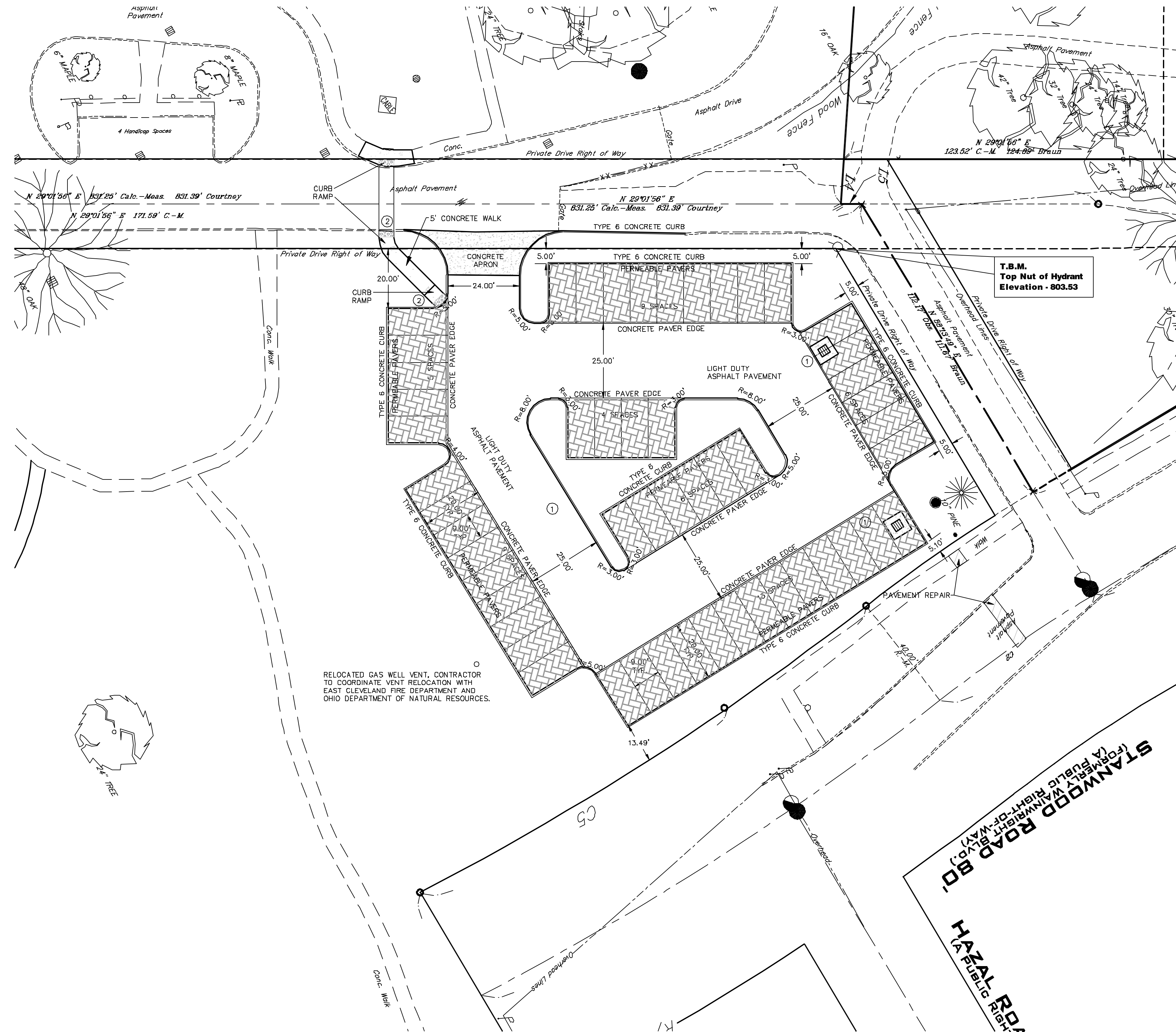
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	08/28/2020	8% SET
	10/15/2020	PRICING UPDATE
	11/02/2020	PERMIT
	2/18/2021	RECORD



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VOLUME 1: NEW SENIOR APARTMENT BUILDING
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PROJECT NO: 2019.25
 TITLE:
SITE PLAN
 DRAWING NUMBER:
C3.02
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- NOTES:
- ① CONCRETE COLLAR. SEE DETAIL SHEET C6.01.
 - ② DETECTABLE WARNINGS, TRUNCATED DOMES, SEE DETAIL SHEET C6.01.

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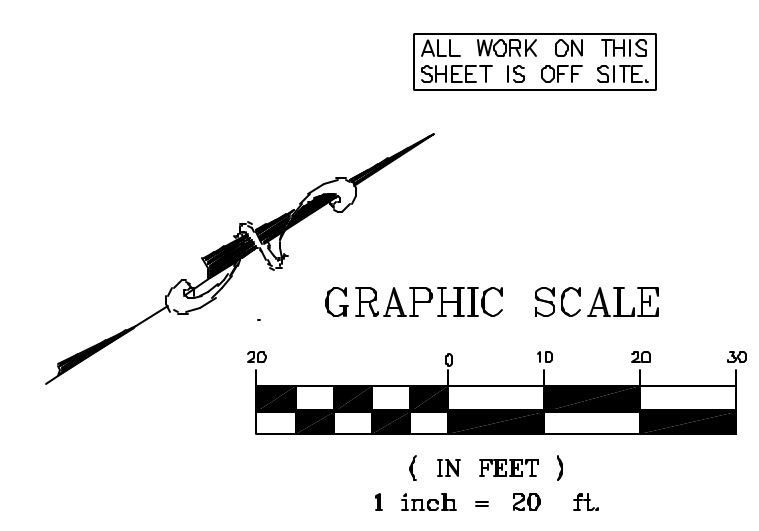
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PROJECT NO: 2019.25
 TITLE:
SITE PLAN
 DRAWING NUMBER:
C3.03
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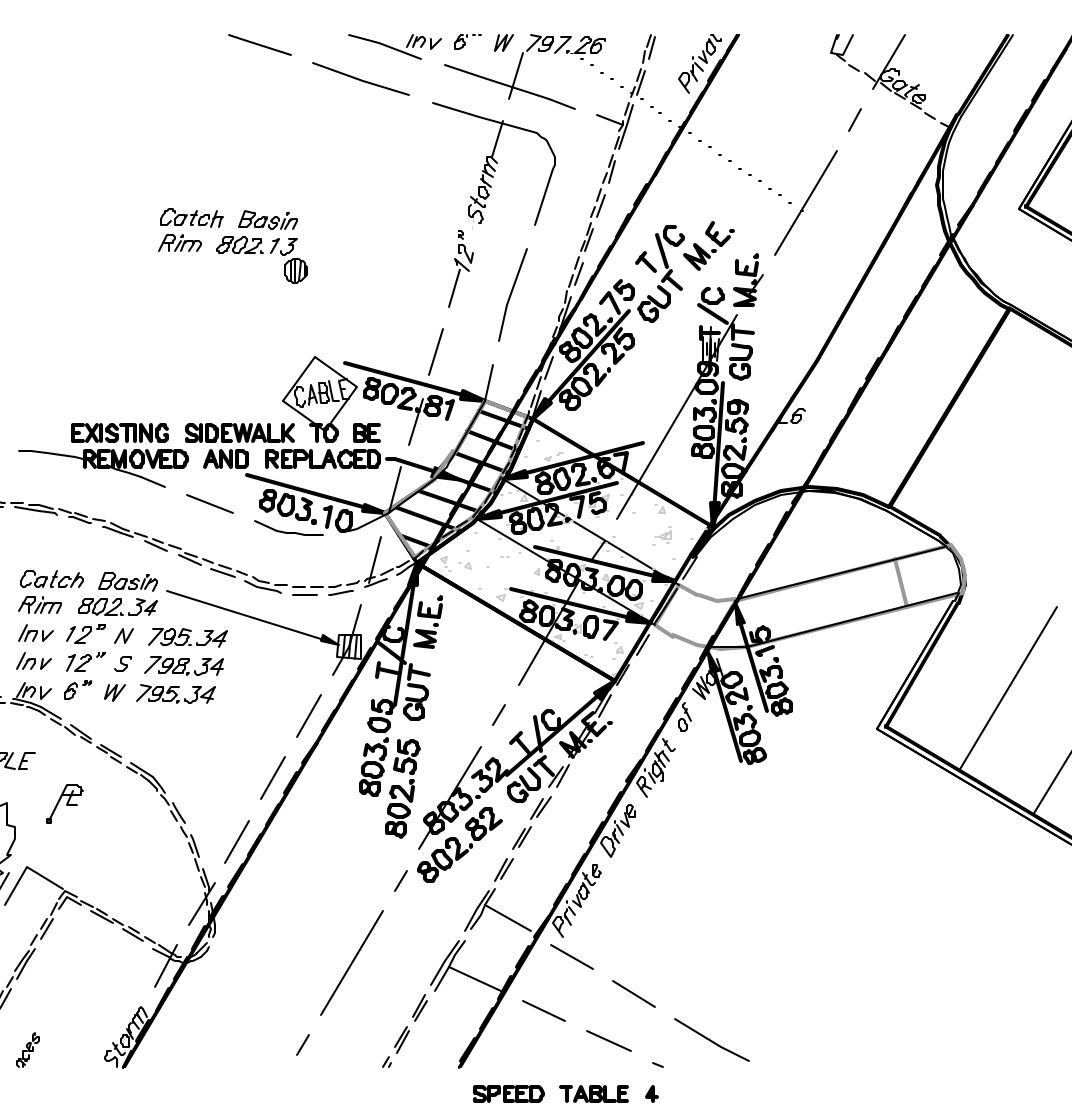
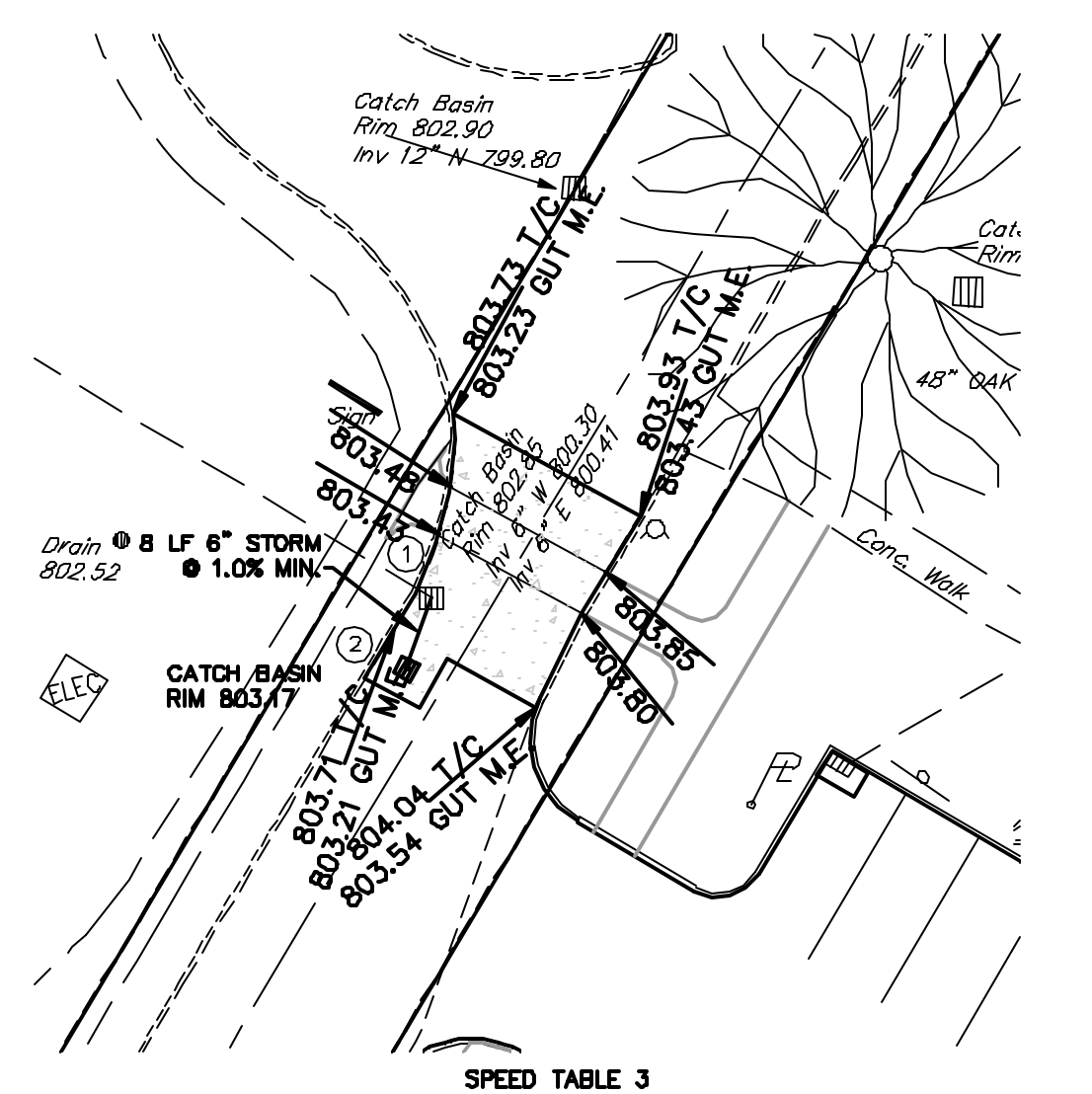
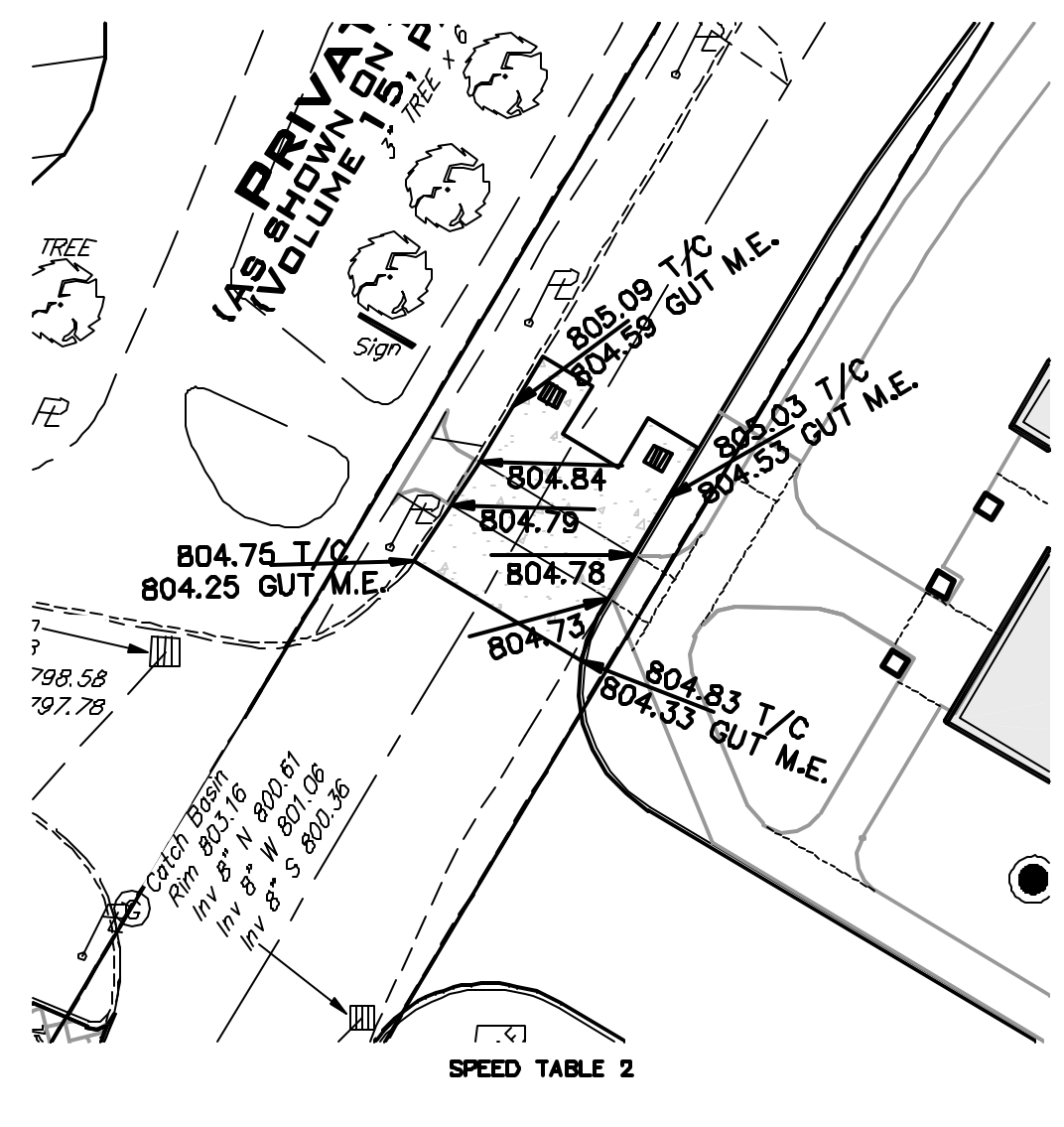
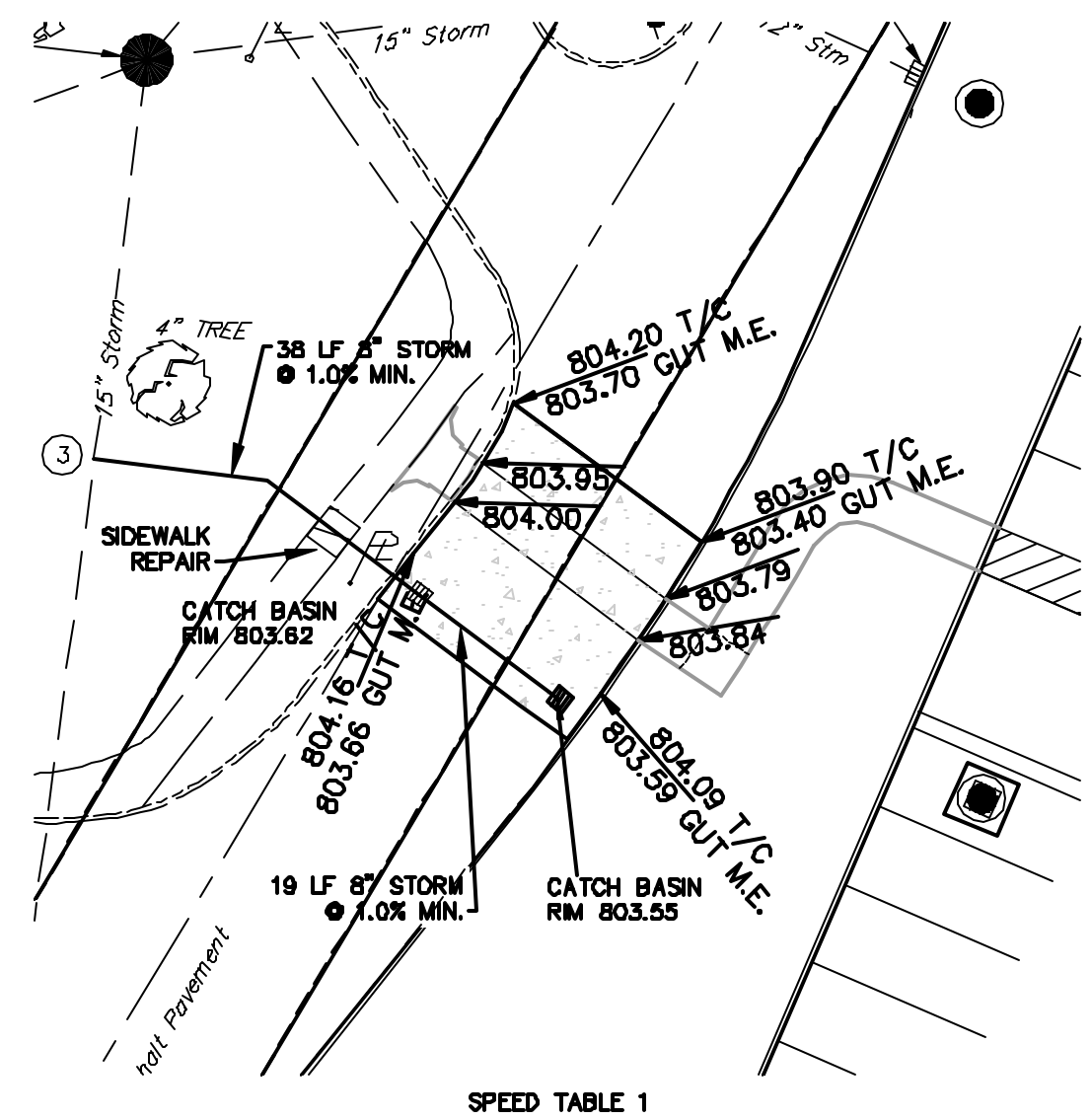
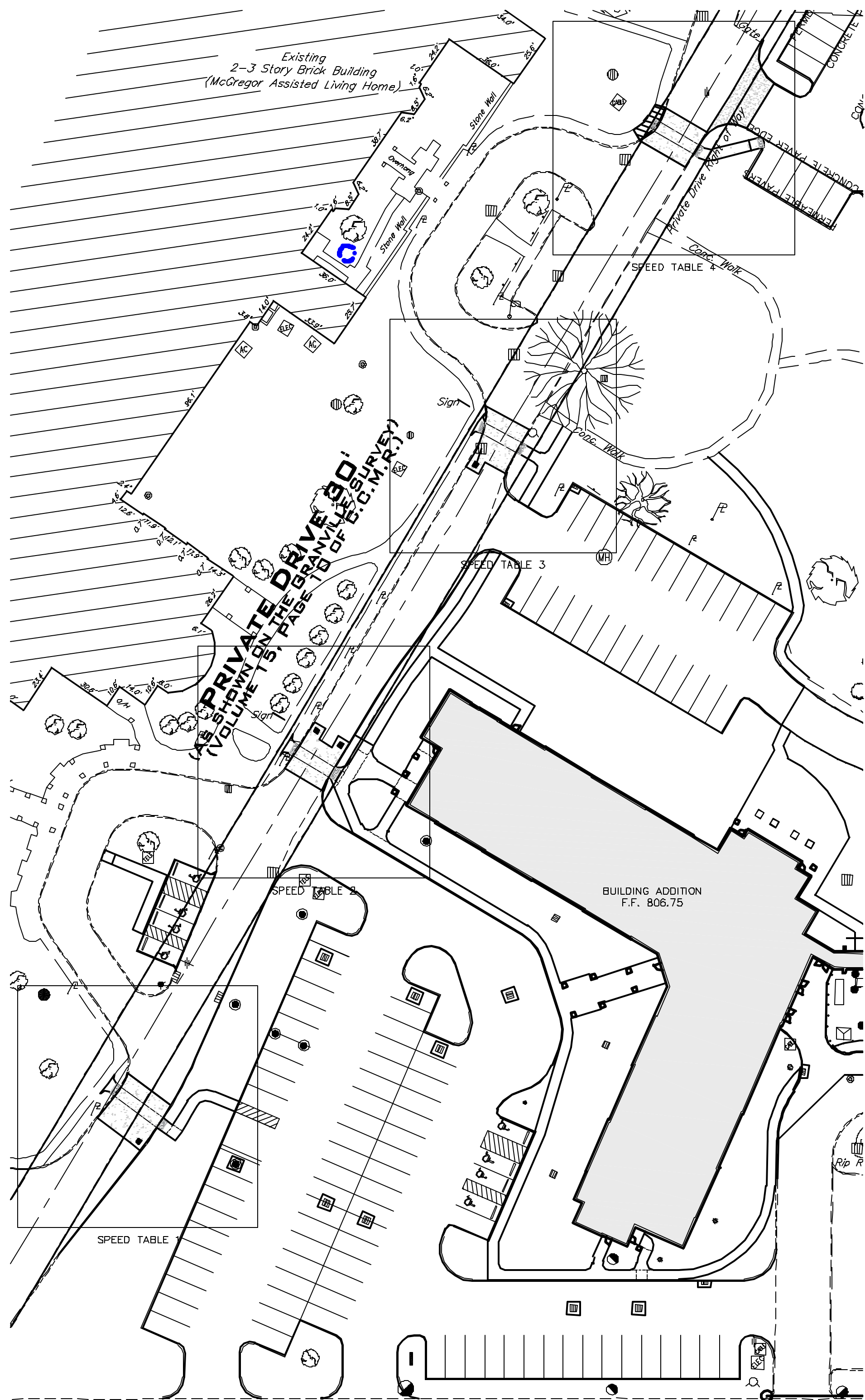
LEGEND

<ul style="list-style-type: none"> Ⓜ = Monument Box Found ○ = Iron Pin or Pipe Found ● = 5/8" Iron Pin Set and Capped Riverstone Company Dudley PS8747 ⊕ = P.K. Nail ⊗ = Gas Meter ⊘ = Gas Valve ⊙ = Gas Valve ⊚ = Utility Pole ⊛ = Light Pole ⊜ = Guy Anchor & Line ⊝ = Telephone Box ⊞ = Electric Box ⊟ = Cable Box ⊠ = Bollard 	<ul style="list-style-type: none"> ⊡ = Spot Elevation Tag ⊢ = Hydrant ⊣ = Water Service Valve ⊤ = Water Valve ⊥ = Water Meter ⊦ = Reducer ⊧ = Storm Manhole ⊨ = Sanitary Manhole ⊩ = Curb Inlet ⊪ = Catch Basin ⊫ = Round Curb Inlet ⊬ = Cleanout/Test Tee 	<ul style="list-style-type: none"> Ac. Acres Adj. Adjacent Asp. Asphalt B.F. Basement Floor Calc./C. Calculated CB Catch Basin C.C.M.R. Cuyahoga County Map Records ⊙ Centerline ⊚ Chain-Link Fence Cir. Clears Conc. Concrete Cann. Connection D.H. Drill Hole D.I.W.M. Ductile Iron Water Main Elec. Electric Encr. Encroaches Ex. Existing F.F. Finished Floor 	<ul style="list-style-type: none"> L.C.A. Limited Common Area Meas./M. Measured MH Manhole Obs. Observed Pg. Page P.P.N. Permanent Parcel Number ⊘ Property Line ⊙ Record R/W Right-of-way San. Sanitary S.F. Square Feet S/L Sublot Stm. Storm T.B.M. Temporary Bench Mark TBR To Be Removed Tele. Telephone T.F. Top Footer Vol. Volume Wat. Water
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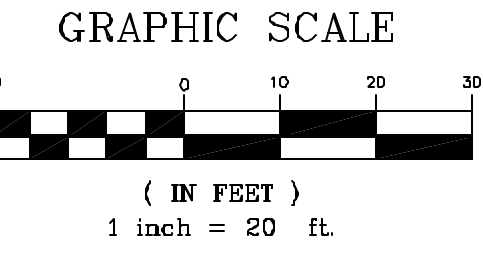
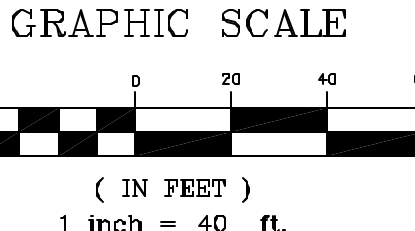


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Provide all rim and invert elevations for proposed catch basins that are part of the speed tables.



LEGEND		LEGEND	
[M] = Monument Box Found	[Spot Elevation Tag]	Ac. = Acres	L.C.A. = Limited Common Area
● = Iron Pin or Pipe Found	[Water Service Valve]	Adj. = Adjacent	Meas./M. = Measured
● = 5/8" Iron Pin Set and Capped Riverstone Company Dudley P56747	[Water Valve]	Asp. = Asphalt	MH = Manhole
+ = P.K. Nail	[Water Meter]	B.F. = Basement Floor	Obs. = Observed
⊕ = Gas Meter	[Reducer]	Calc./C. = Calculated	Pg. = Page
⊕ = Gas Valve	[Storm Manhole]	CB = Catch Basin	P.P.N. = Permanent Parcel Number
⊕ = Utility Pole	[Sanitary Manhole]	C.C.M.R. = Cuyahoga County	PL = Property Line
⊕ = Light Pole	[Curb Inlet]	Map Records	Rec./R. = Record
⊕ = Guy Anchor & Line	[Catch Basin]	Centerline	R/W = Right-of-way
⊕ = Telephone Box	[Round Curb Inlet]	Electric Line	Son. = Sanitary
⊕ = Electric Box	[Cleanout/Test Tee]	Gas Line	S.F. = Square Foot
⊕ = Cable Box		Sanitary/Combination Sewer	S/L = Sublot
⊕ = Bollard		Storm Sewer	Stm. = Storm
		Waterline	T.B.M. = Temporary Bench Mark
		Fence Line (Wooden)	To Be Removed
		Fence Line (Chain-Link)	Tele = Telephone
		Guardrail	T.F. = Top Footer
			Vol. = Volume
			Wat = Water

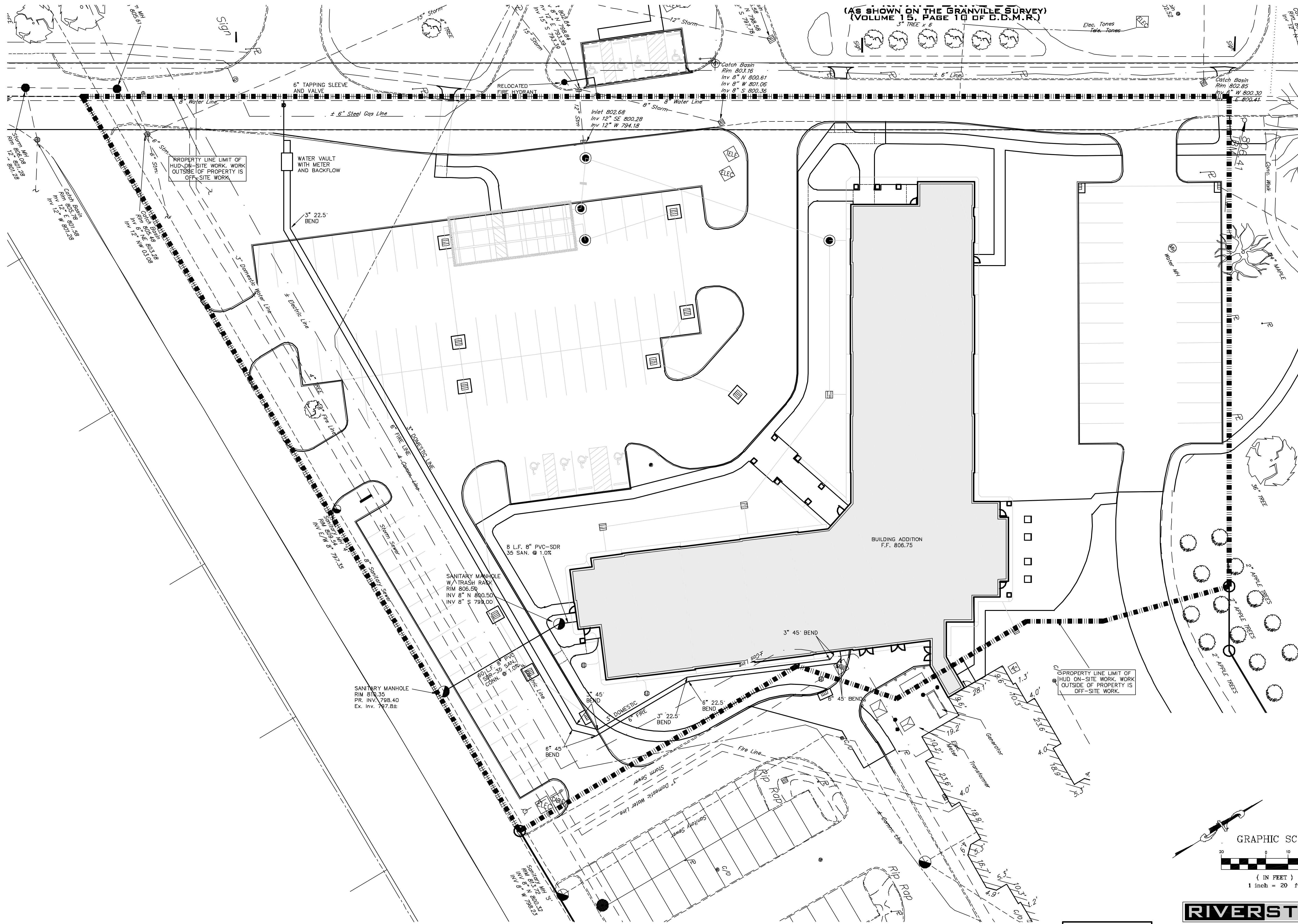
- KEYNOTES:
- EXISTING CATCH BASIN TO BE REMOVED.
 - NEW CATCH BASIN TO TIE INTO EXISTING STORM SEWER CONNECTION.
 - PRIOR TO CONSTRUCTION, CONTRACTOR SHALL LOCATE AND EXPOSE EXISTING SEWER AT CONNECTION POINT. CONTRACTOR SHALL NOTIFY ENGINEER OF SIZE, DEPTH, AND CONDITION OF SEWER.

MARK	DATE	PURPOSE
	08/28/2020	80% SET
	10/15/2020	PRINCIPAL UPDATE
	1/10/2021	PERMIT
	2/18/2021	NEO/SD



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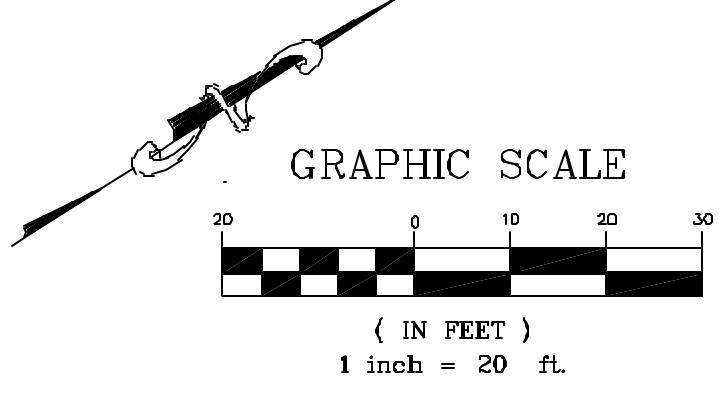




(AS SHOWN ON THE GRANVILLE SURVEY)
(VOLUME 15, PAGE 10 OF C.D.M.R.)

PROPERTY LINE LIMIT OF
HUD ON-SITE WORK. WORK
OUTSIDE OF PROPERTY IS
OFF-SITE WORK.

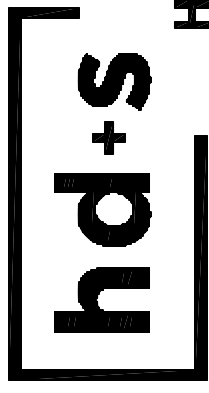
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VOLUME 1: NEW SENIOR APARTMENT BUILDING
14860 PRIVATE DRIVE, EAST CLEVELAND, OHIO 44112



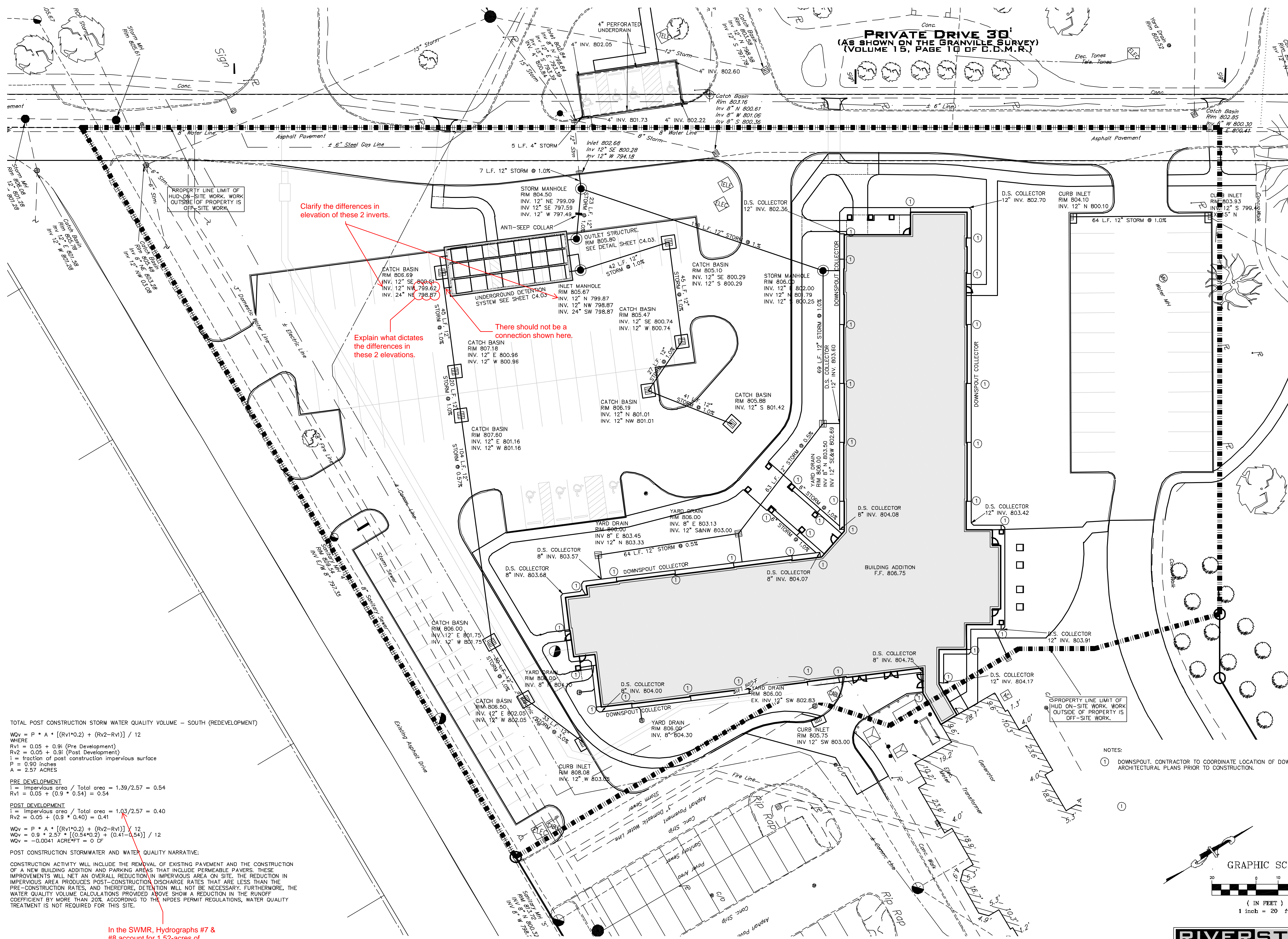
PROJECT NO: 2019.25

TITLE:
**UTILITY PLAN
SANITARY & WATER**

DRAWING NUMBER:

C4.01

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Clarify the differences in elevation of these 2 inverts.

Explain what dictates the differences in these 2 elevations.

There should not be a connection shown here.

TOTAL POST CONSTRUCTION STORM WATER QUALITY VOLUME - SOUTH (REDEVELOPMENT)

$$WQV = P * A * [(Rv1 * 0.2) + (Rv2 - Rv1)] / 12$$

WHERE

Rv1 = 0.05 + 0.9i (Pre Development)

Rv2 = 0.05 + 0.9i (Post Development)

i = fraction of post construction impervious surface

P = 0.90 inches

A = 2.57 ACRES

PRE DEVELOPMENT

$$i = \text{Impervious area} / \text{Total area} = 1.39 / 2.57 = 0.54$$

$$Rv1 = 0.05 + (0.9 * 0.54) = 0.54$$

POST DEVELOPMENT

$$i = \text{Impervious area} / \text{Total area} = 1.03 / 2.57 = 0.40$$

$$Rv2 = 0.05 + (0.9 * 0.40) = 0.41$$

$$WQV = 0.9 * 2.57 * [(0.54 * 0.2) + (0.41 - 0.54)] / 12$$

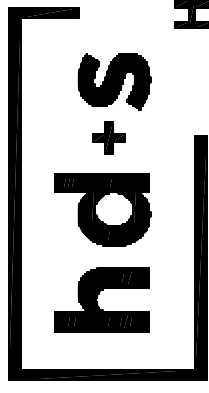
$$WQV = -0.0041 \text{ ACRE*FT} = 0 \text{ CF}$$

POST CONSTRUCTION STORMWATER AND WATER QUALITY NARRATIVE:

CONSTRUCTION ACTIVITY WILL INCLUDE THE REMOVAL OF EXISTING PAVEMENT AND THE CONSTRUCTION OF A NEW BUILDING ADDITION AND PARKING AREAS THAT INCLUDE PERMEABLE PAVERS. THESE IMPROVEMENTS WILL NET AN OVERALL REDUCTION IN IMPERVIOUS AREA ON SITE. THE REDUCTION IN IMPERVIOUS AREA PRODUCES POST-CONSTRUCTION DISCHARGE RATES THAT ARE LESS THAN THE PRE-CONSTRUCTION RATES, AND THEREFORE, DETENTION WILL NOT BE NECESSARY. FURTHERMORE, THE WATER QUALITY VOLUME CALCULATIONS PROVIDED ABOVE SHOW A REDUCTION IN THE RUNOFF COEFFICIENT BY MORE THAN 20%. ACCORDING TO THE NPDES PERMIT REGULATIONS, WATER QUALITY TREATMENT IS NOT REQUIRED FOR THIS SITE.

In the SWMR, Hydrographs #7 & #8 account for 1.52-acres of impervious area. Please clarify.

PRIVATE DRIVE 30'
(AS SHOWN ON THE GRANVILLE SURVEY)
(VOLUME 15, PAGE 10 OF C.D.M.R.)



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MARK	DATE	PURPOSE
	08/28/2020	85% SET
	10/15/2020	PRICING UPDATE
	11/02/2020	PERMIT
	2/18/2021	RECORD

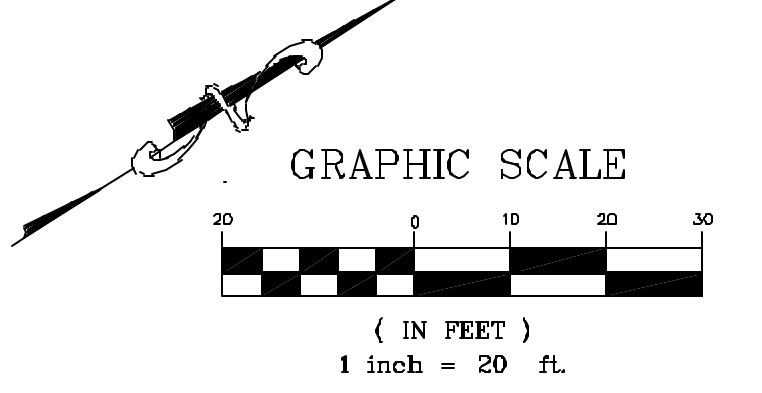
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SENIOR INDEPENDENT LIVING
VOLUME 1: NEW SENIOR APARTMENT BUILDING
14860 PRIVATE DRIVE, EAST CLEVELAND, OHIO 44112



NOTES:

1 DOWNSPOUT. CONTRACTOR TO COORDINATE LOCATION OF DOWNSPOUT WITH ARCHITECTURAL PLANS PRIOR TO CONSTRUCTION.



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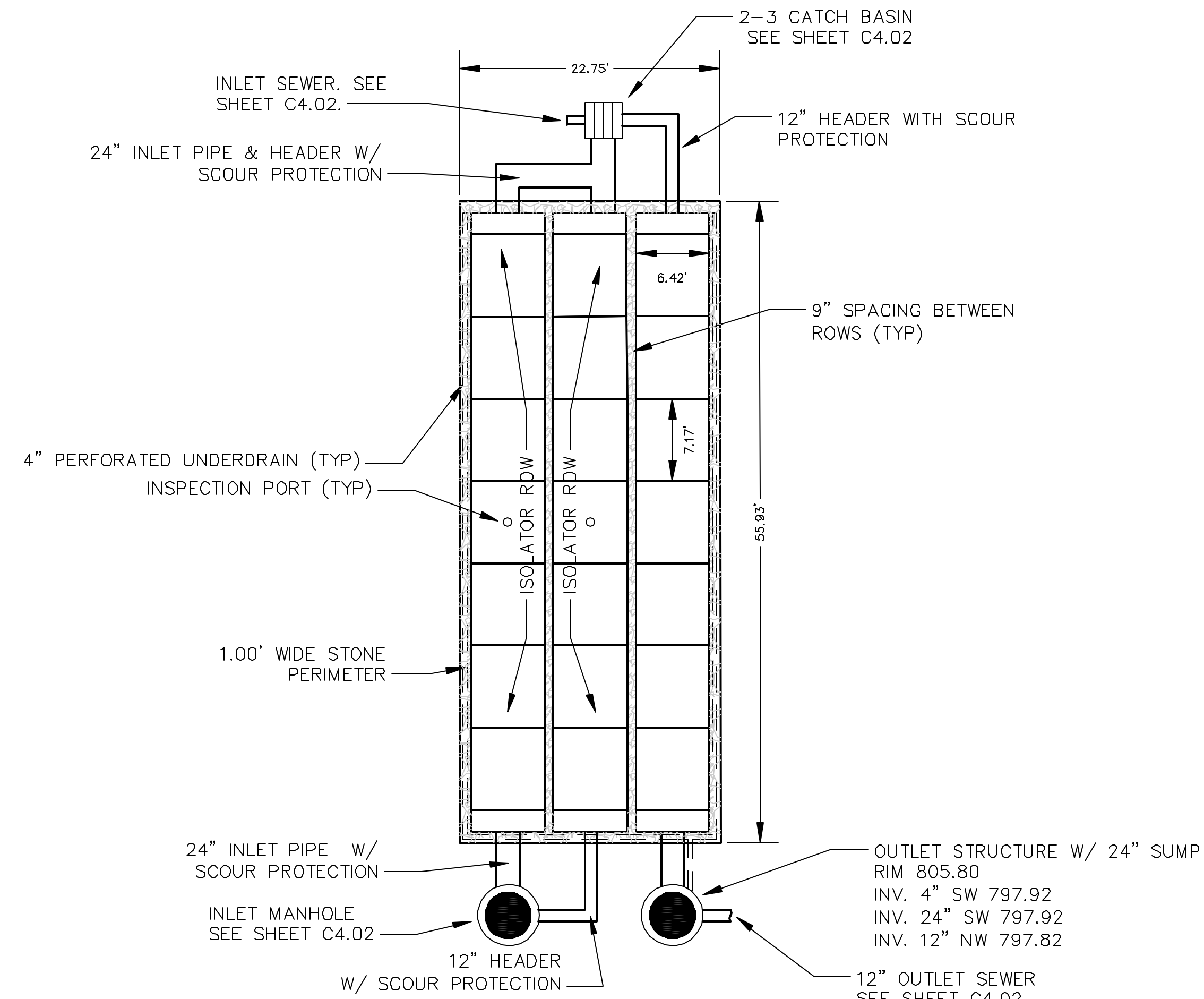
PROJECT NO: 2019.25

TITLE:
UTILITY PLAN
STORM

DRAWING NUMBER:
C4.02

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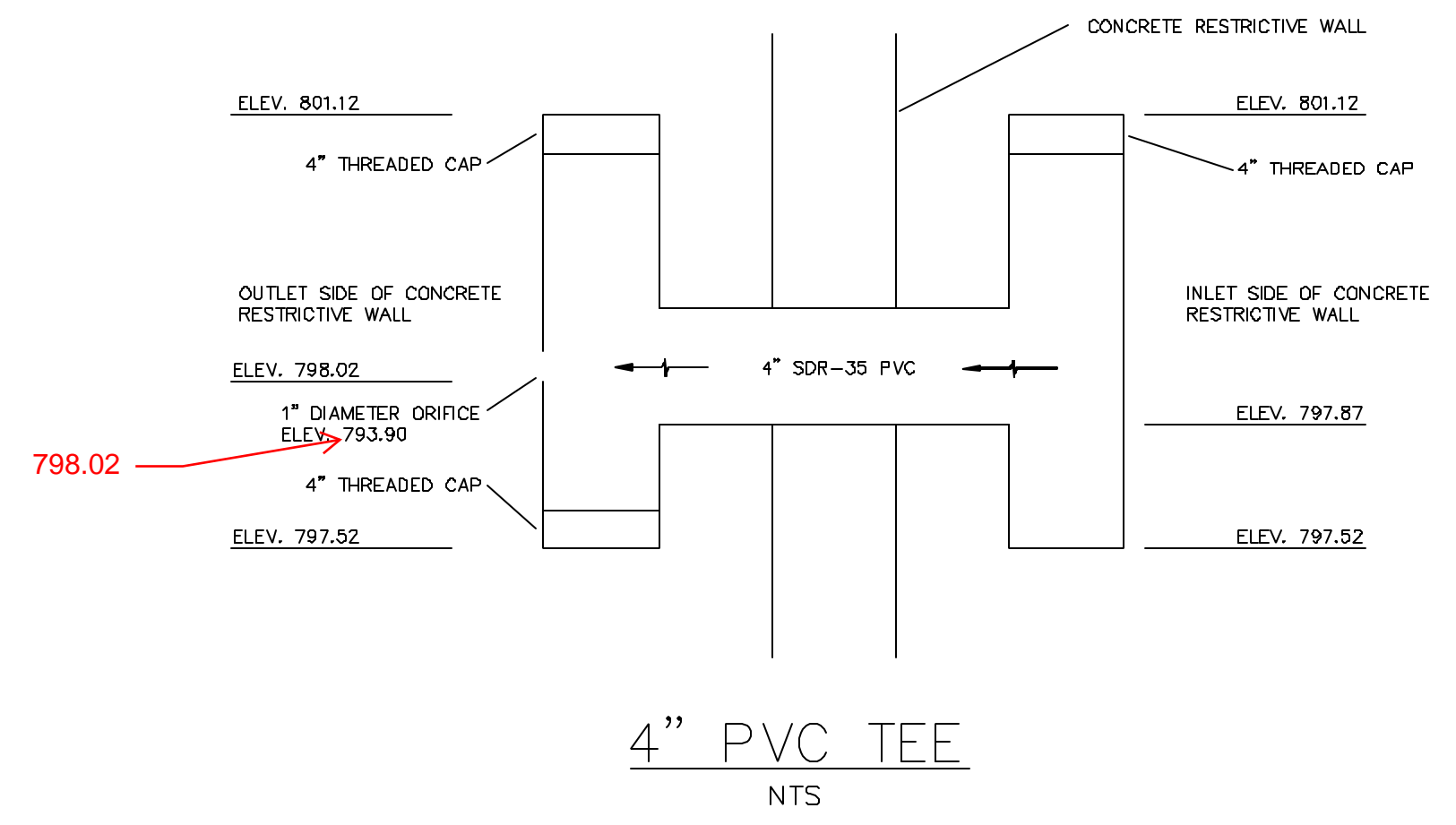
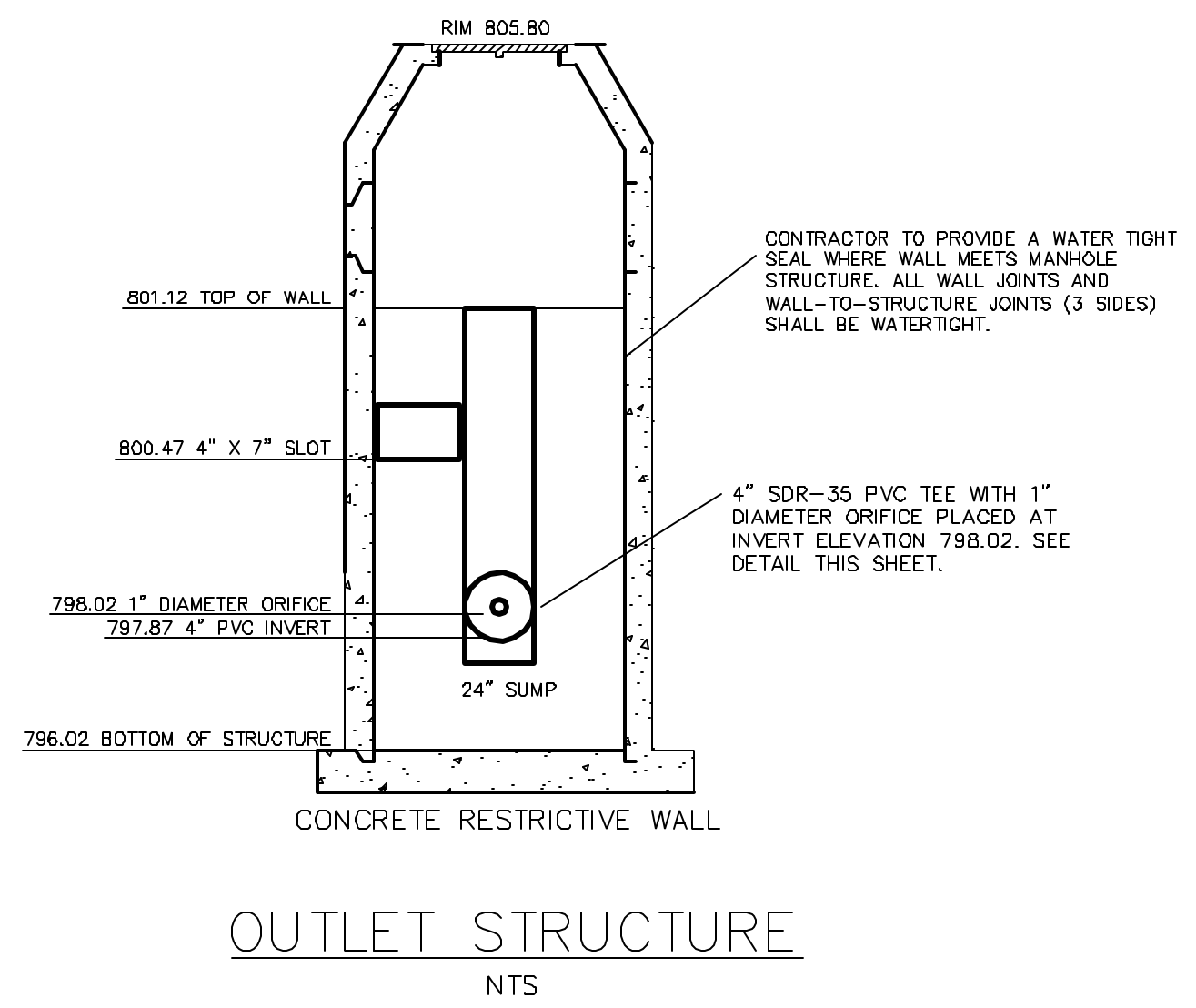
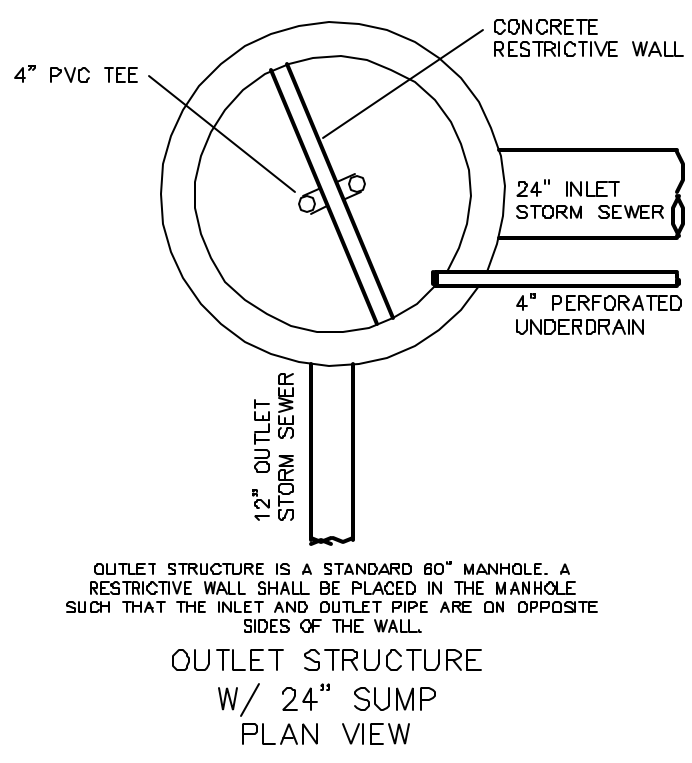
STORMTECH MC-3500
UNDERGROUND DETENTION SYSTEM
NTS

LONG TERM MAINTENANCE

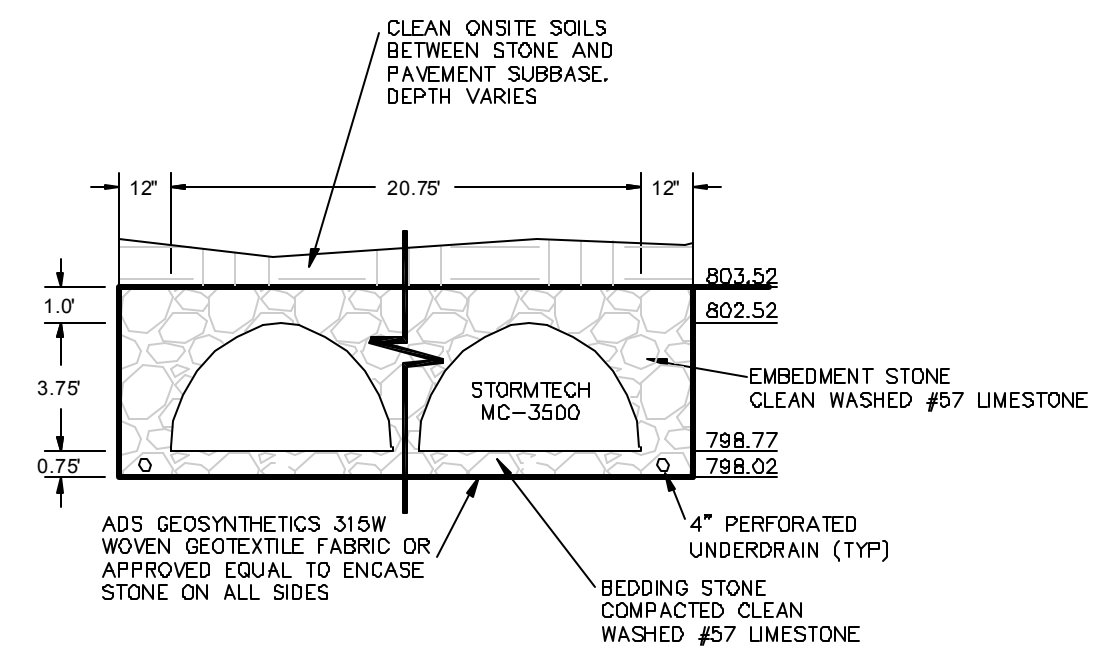
THE STORMWATER MANAGEMENT SYSTEM WILL REQUIRE PERIODIC MAINTENANCE AND INSPECTION. THE SYSTEM IS DESIGNED WITH INSPECTION PORTS FOR THIS REASON. THE INSPECTION PORT SHALL BE INSTALLED ON THE ISOLATOR ROW OF THE SYSTEM, THIS IS WHERE THE INSPECTIONS AND MAINTENANCE WILL TAKE PLACE.

INSPECTION: A ROD SHALL BE INSERTED INTO THE INSPECTION PORT AND EXTENDED DOWN TO THE BASE OF THE SYSTEM TO MEASURE THE AMOUNT OF SEDIMENT ACCUMULATED IN THE ISOLATOR ROW. WHEN THE AVERAGE DEPTH OF THE SEDIMENT EXCEEDS 3" CLEANOUT WILL BE REQUIRED. THE ISOLATOR ROW SHOULD INITIALLY BE INSPECTED IMMEDIATELY AFTER COMPLETION OF THE SITE CONSTRUCTION. THIS IS THE TIME WHERE EXCESS AMOUNTS OF SEDIMENT CAN ENTER INTO THE SYSTEM. INSPECTION AND MAINTENANCE IF NECESSARY SHOULD BE PERFORMED PRIOR TO THE OWNER ACCEPTING THE SYSTEM. ONCE IN NORMAL SERVICE THE SYSTEM SHOULD BE INSPECTED TWICE A YEAR. UNTIL AN UNDERSTANDING OF THE SITES CHARACTERISTICS IS DEVELOPED. THE INSPECTION SCHEDULE CAN THEN BE REVISED TO FIT THE SITES NEEDS.

JETVAC MAINTENANCE IS RECOMMENDED ONCE THE SEDIMENT IN THE ISOLATOR ROW EXCEEDS 2". FIXED NOZZLES DESIGNED FOR LARGE CULVERTS OR SEWERS ARE PREFERRED. THE JETVAC PROCESS SHOULD ONLY BE PERFORMED ON THE ISOLATOR ROW AND IS NOT NECESSARY ON THE ENTIRE SYSTEM.



UNDERGROUND DETENTION SYSTEM
PROFILE VIEW
NTS



COVER PIPE CONNECTION TO END CAP WITH ADS GEOSYNTHETICS 601T NON-WOVEN GEOTEXTILE

OPTIONAL INSPECTION PORT

MC-3500 CHAMBER

MC-3500 END CAP

STORMTECH HIGHLY RECOMMENDS FLEXSTORM PURE INSERTS IN ANY UPSTREAM STRUCTURES WITH OPEN GRATES

CATCH BASIN GR MANHOLE

24" (600 mm) HDPE ACCESS PIPE REQUIRED USE FACTORY PRE-CORED END CAP PART #: MC3500EPP24BC OR MC3500EPP48W

TWO LAYERS OF ADS GEOSYNTHETICS 315W WOVEN GEOTEXTILE BETWEEN FOUNDATION STONE AND CHAMBERS 6.2' (2.51 m) MIN WIDE CONTINUOUS FABRIC WITHOUT SEAMS

MC-3500 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

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.

CONCRETE COLLAR PAVEMENT

18" (450 mm) MIN WIDTH

CONCRETE SLAB 8" (200 mm) MIN THICKNESS

CONCRETE COLLAR NOT REQUIRED FOR UNPAVED APPLICATIONS

12" (300mm) NYLOPLAST INLINE COVER OR GRATE PART# 2712AG6P* SOLID COVER: 1296CGC* GRATE: 1296CGS

6" (150 mm) SDR35 PIPE

MC-3500 CHAMBER

FLEXSTORM CATCH IT PART# 6212WFX WITH USE OF OPEN GRATE

6" (150 mm) INSERTA TEE PART# 6228S15P* INSERTA TEE TO BE CENTERED IN VALLEY OF CORRUGATIONS

MC-3500 6" INSPECTION PORT DETAIL
NTS

* THE PART# 2712AG6PKIT CAN BE USED TO ORDER ALL NECESSARY COMPONENTS FOR A SOLID LID INSPECTION PORT INSTALLATION

REV	DATE	DESCRIPTION
01	08/28/2020	ISSUE

ISOLATOR ROW DETAILS
MC-3500
DATE: 08/28/2020
DRAWN: JLM
CHECKED: JLM

4640 TRUMAN BLVD
HILLIARD, OH 43026

Stormtech
CORPORATION
10000 WILSON ROAD, SUITE 100
MARIETTA, OH 45750
WWW.STORMTECH.COM

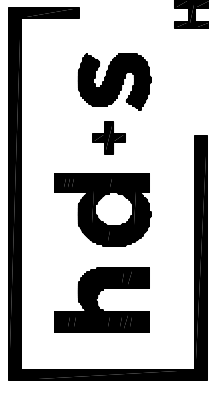
SDS
SAFETY DATA SHEET

1 SHEET OF 1



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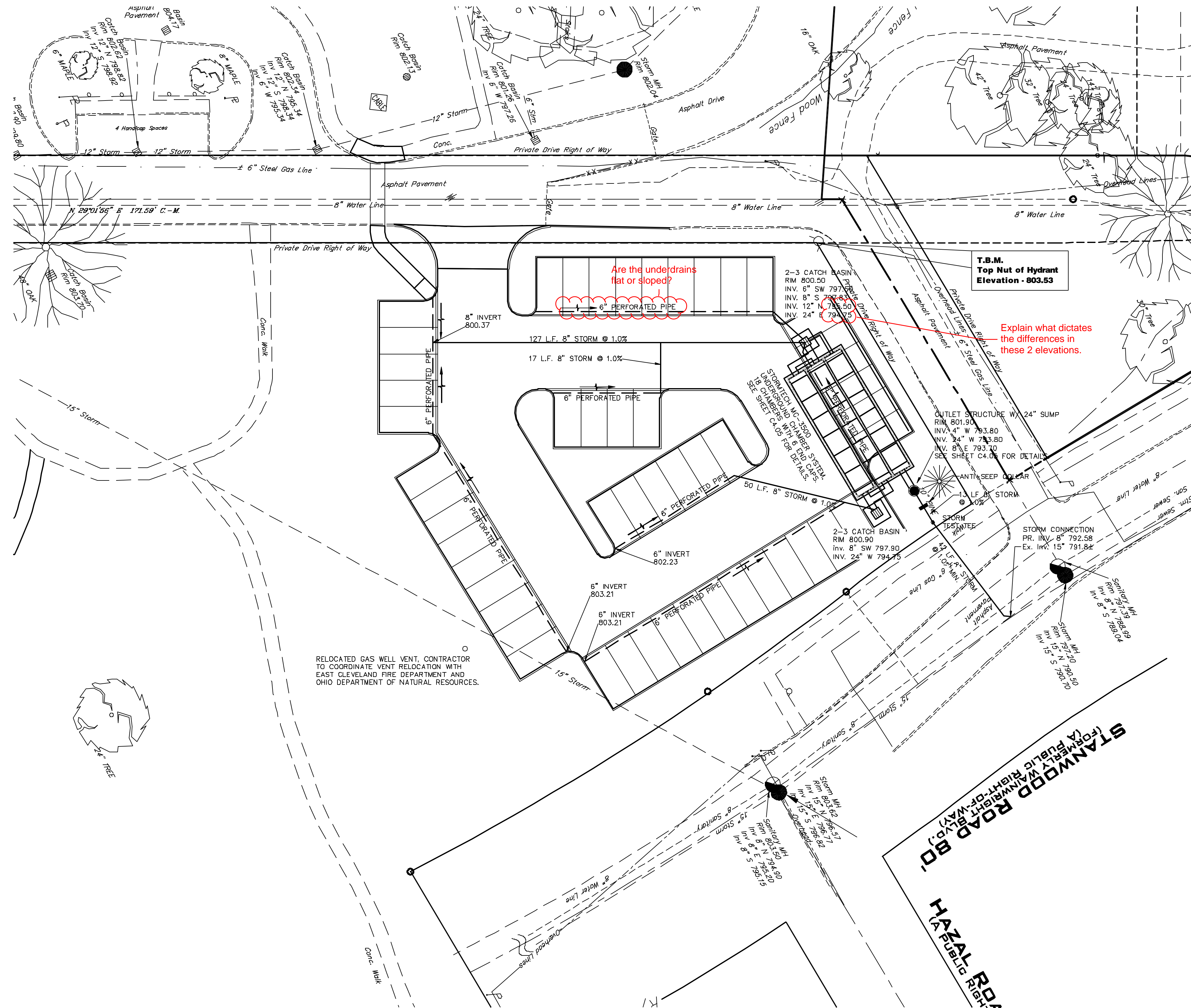
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SENIOR INDEPENDENT LIVING
VOLUME 1: NEW SENIOR APARTMENT BUILDING
14860 PRIVATE DRIVE, EAST CLEVELAND, OHIO 44112



PROJECT NO: 2019.25
TITLE:
UTILITY PLAN
STORM

DRAWING NUMBER:
C4.03
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	08/28/2020	8% SET
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	2/18/2021	RECORD

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SENIOR INDEPENDENT LIVING
VOLUME 1: NEW SENIOR APARTMENT BUILDING
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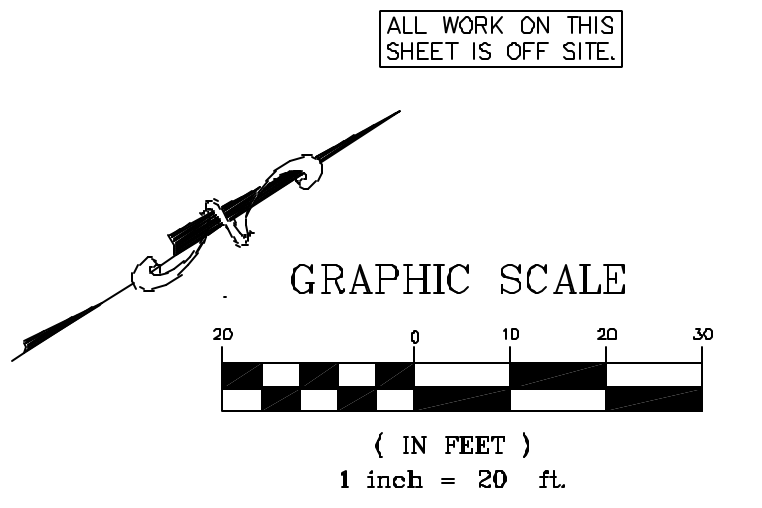
PROJECT NO: 2019.25
 TITLE:
UTILITY PLAN
STORM
 DRAWING NUMBER:
C4.04
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	Monument Box Found
	Iron Pin or Pipe Found
	5/8" Iron Pin Set and Capped Riverstone Company Dudley P50747
	P.K. Nail
	Gas Meter
	Gas Valve
	Utility Pole
	Light Pole
	Guy Anchor & Line
	Telephone Box
	Electric Box
	Cable Box
	Bollard

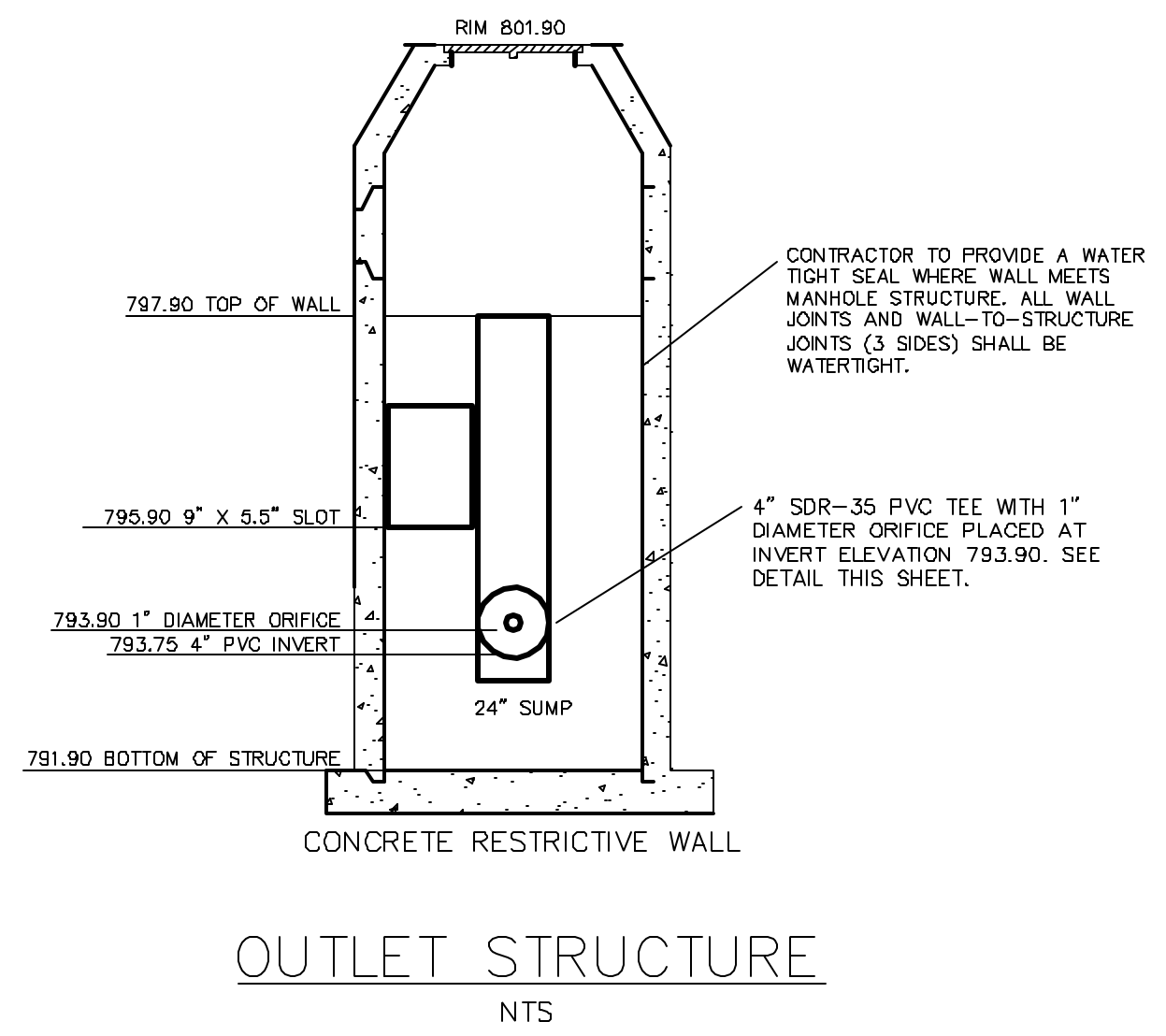
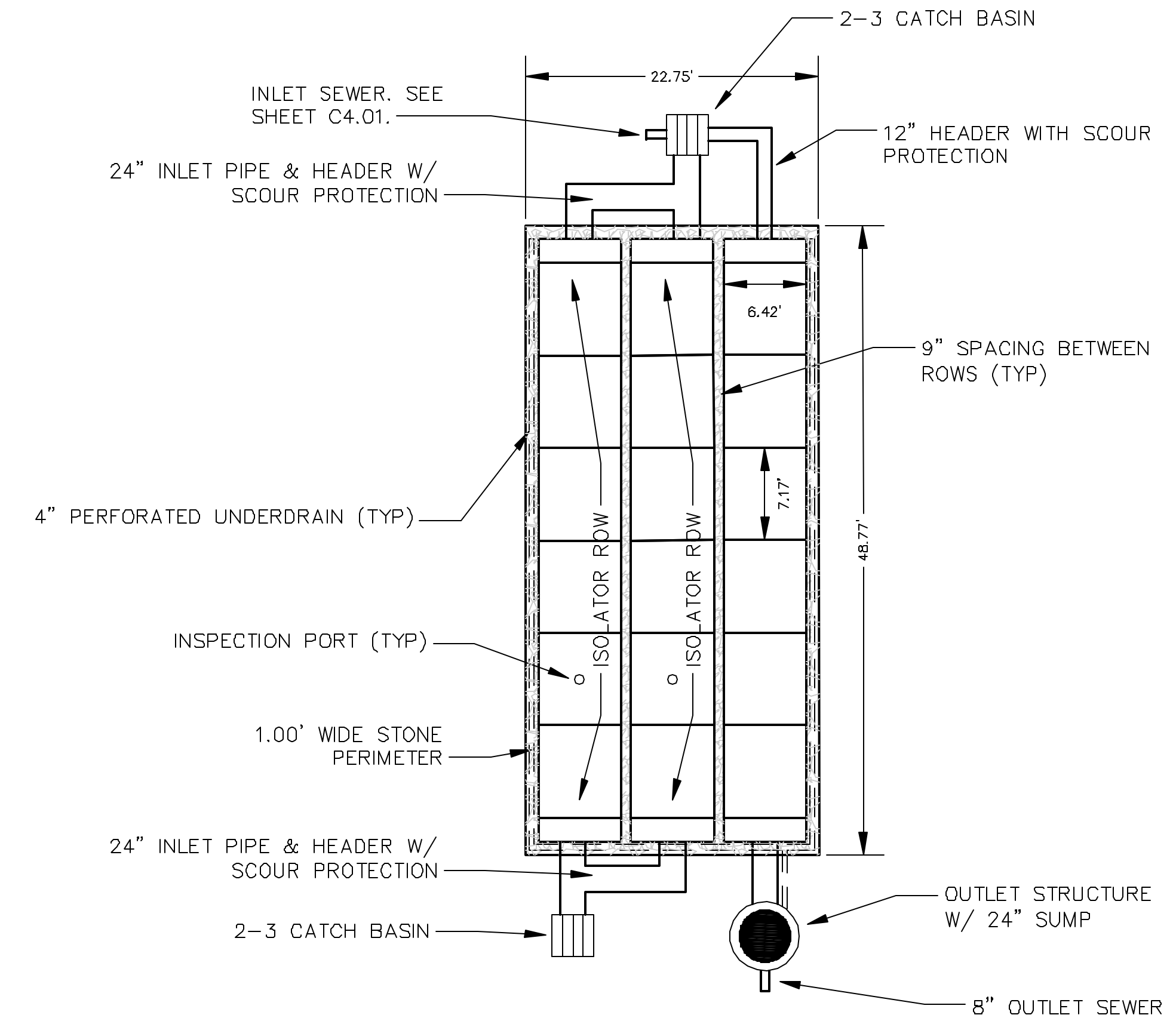
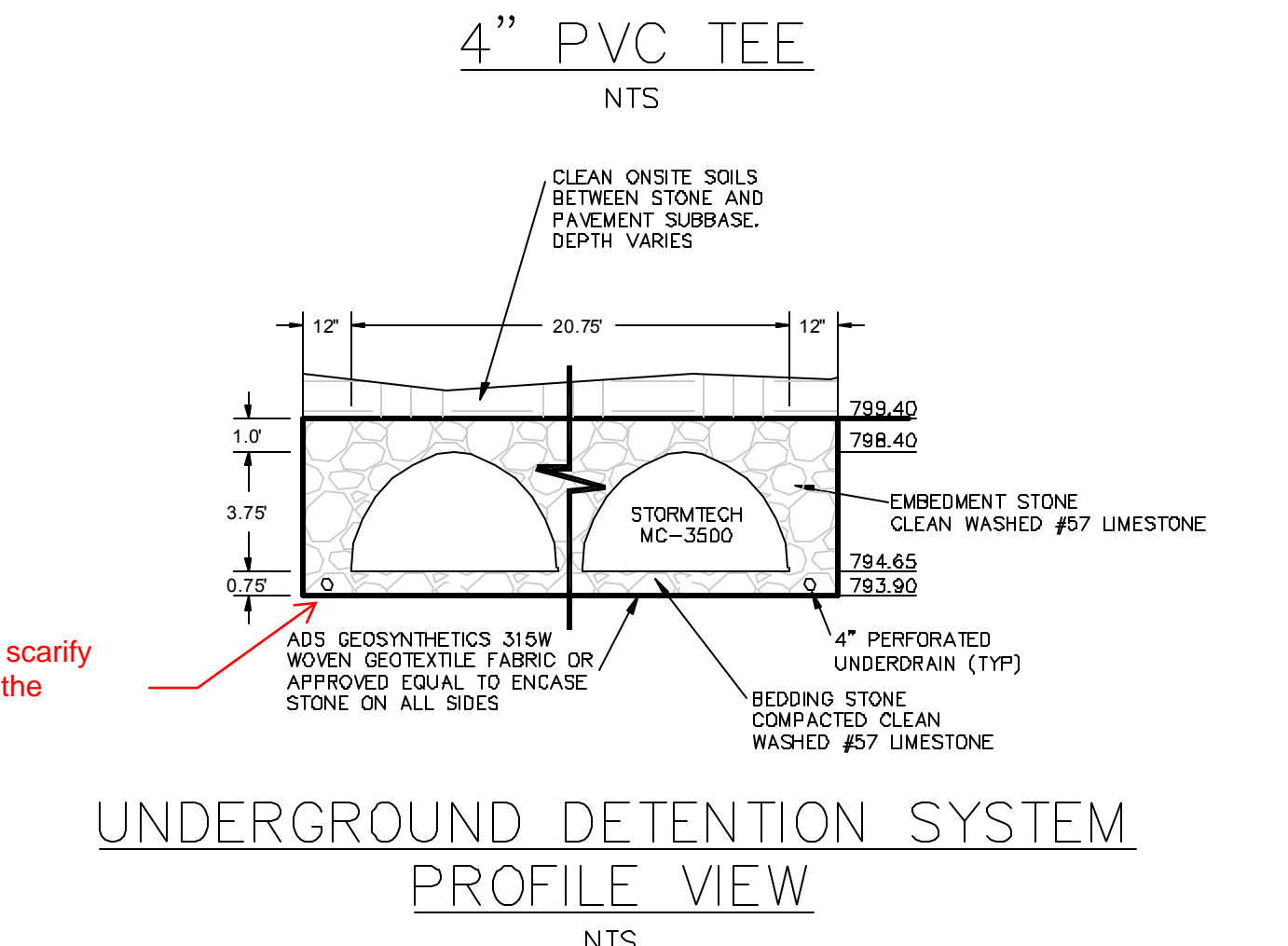
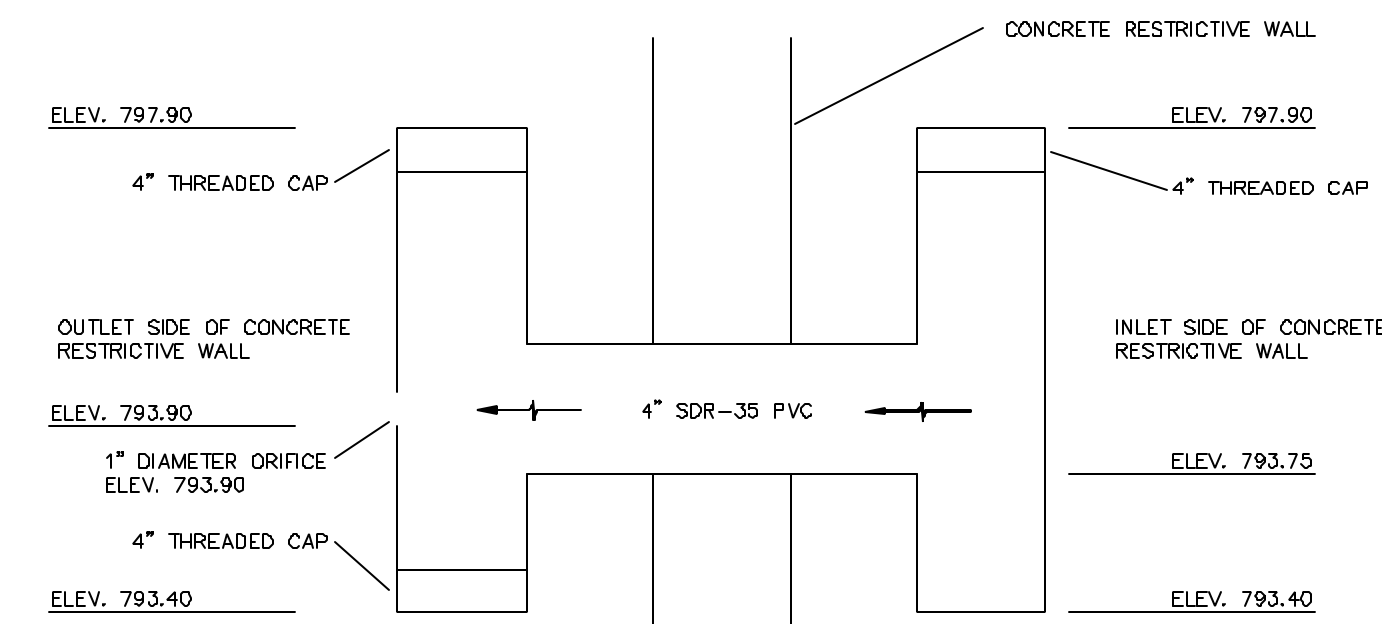
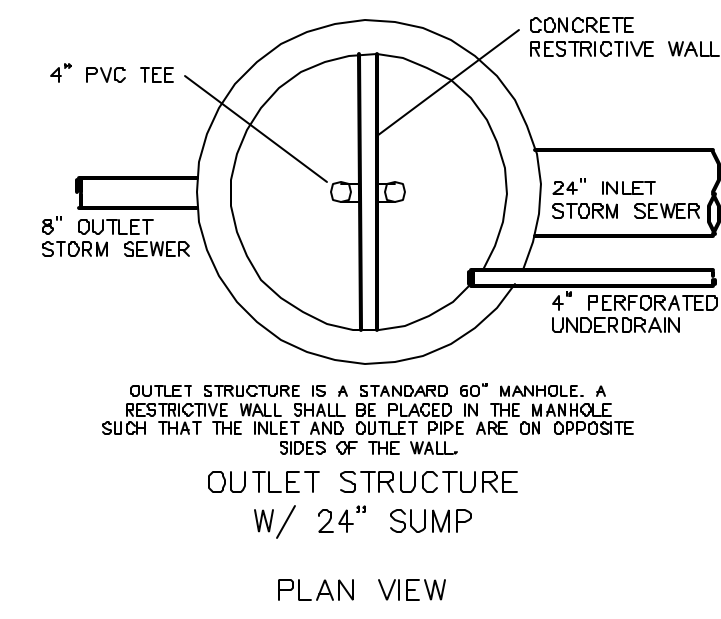
	Spot Elevation Tag
	Hydrant
	Water Service Valve
	Water Valve
	Water Meter
	Reducer
	Storm Manhole
	Sanitary Manhole
	Curb Inlet
	Catch Basin
	Round Curb Inlet
	Cleanout/Test Tee

Ac.	Acres	L.C.A.	Limited Common Area
Adj.	Adjacent	Meas./M.	Measured
Asp.	Asphalt	MH	Manhole
B.F.	Basement Floor	Obs.	Observed
Calc./C.	Calculated	Pg.	Page
CB	Catch Basin	P.P.N.	Permanent Parcel Number
C.C.M.R.	Cuyahoga County Map Records	R	Record
Map Records		Rec./R.	Record
Centerline	Chain-link Fence	R/W	Right-of-way
Clr.	Clears	San.	Sanitary
Conc.	Concrete	S.F.	Square Feet
Cann.	Connection	S/L	Sublot
D.H.	Drill Hole	Stm.	Storm
D.I.W.M.	Ductile Iron Water Main	T.B.M.	Temporary Bench Mark
Elec	Electric	TBR	To Be Removed
Encr.	Encroaches	Tele	Telephone
Ex.	Existing	T.F.	Top Footer
F.F.	Finished Floor	Vol.	Volume
		Wat	Water

LEGEND



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MC-3500 ISOLATOR ROW DETAIL
NTS

COVER PIPE CONNECTION TO END CAP WITH ADS GEOSYNTHETICS 601T NON-WOVEN GEOTEXTILE

OPTIONAL INSPECTION PORT

MC-3500 CHAMBER

MC-3500 END CAP

CATCH BASIN OR MANHOLE

STORMTECH HIGHLY RECOMMENDS FLEXSTORM PURE INSERTS IN ANY UPSTREAM STRUCTURES WITH OPEN GRATES

24" (600 mm) HDPE ACCESS PIPE REQUIRED USE FACTORY PRE-CORED END CAP PART #: MC3500EPP24BC OR MC3500EPP24BW

TWO LAYERS OF ADS GEOSYNTHETICS 315WTM WOVEN GEOTEXTILE BETWEEN FOUNDATION STONE AND CHAMBERS 6.25' (2.51 m) MIN WIDE CONTINUOUS FABRIC WITHOUT SEAMS

SUMP DEPTH TBD BY SITE DESIGN ENGINEER (24" (600 mm) MIN RECOMMENDED)

MC-3500 6" INSPECTION PORT DETAIL
NTS

CONCRETE COLLAR PAVEMENT

CONCRETE COLLAR NOT REQUIRED FOR UNPAVED APPLICATIONS

12" (300mm) NYLOPLAST INLINE DRAIN BODY W/SOLID HINGED COVER OR GRATE PART# 272AG8P SOLID COVER: 1299CGG GRATE: 1299CGS

6" (150 mm) SDR35 PIPE

MC-3500 CHAMBER

CONCRETE SLAB 8" (200 mm) MIN THICKNESS

FLEXSTORM CATCH IT PART# 6212NYFX WITH USE OF OPEN GRATE

6" (150 mm) INSERTA TEE PART# 6208B5TIP INSERTA TEE TO BE CENTERED IN VALLEY OF CORRUGATIONS

*THE PART# 2712AG8PKIT CAN BE USED TO ORDER ALL NECESSARY COMPONENTS FOR A SOLID LID INSPECTION PORT INSTALLATION

INSPECTION & MAINTENANCE

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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

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NOTES

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2. CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.

ISOLATOR ROW DETAILS

DESCRIPTION	MC-3500
DATE	08/17/17
DRAWN	JLM
CHECKED	

4640 TRULAMAN BLVD
HILLIARD, OH 43026

Stormtech
Environmental Infrastructure Group

1 SHEET OF 1

LONG TERM MAINTENANCE

THE STORMWATER MANAGEMENT SYSTEM WILL REQUIRE PERIODIC MAINTENANCE AND INSPECTION. THE SYSTEM IS DESIGNED WITH INSPECTION PORTS FOR THIS REASON. THE INSPECTION PORT SHALL BE INSTALLED ON THE ISOLATOR ROW OF THE SYSTEM, THIS IS WHERE THE INSPECTIONS AND MAINTENANCE WILL TAKE PLACE.

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	08/28/2020	8% SET
	10/15/2020	PRICING UPDATE
	11/02/2020	PERMIT
	2/18/2021	NECRSD

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SENIOR INDEPENDENT LIVING
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14860 PRIVATE DRIVE, EAST CLEVELAND, OHIO 44112



PROJECT NO: 2019.25
TITLE:
**UTILITY PLAN
STORM**



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CLEVELAND - OHIO - 44114
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2020-117



PROPERTY LINE LIMIT OF HUD ON-SITE WORK. WORK OUTSIDE OF PROPERTY IS OFF-SITE WORK.

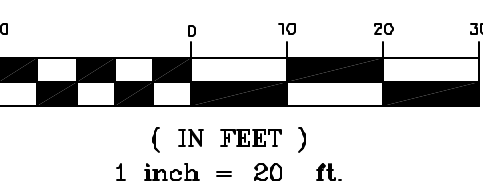
PROPERTY LINE LIMIT OF HUD ON-SITE WORK. WORK OUTSIDE OF PROPERTY IS OFF-SITE WORK.

PRIVATE DRIVE 30'
(AS SHOWN ON THE GRANVILLE SURVEY)
(VOLUME 15, PAGE 10 OF D.D.M.R.)

Ensure traditional pavement area draining to this area is no greater than 2X the footprint of the paver field.

BUILDING ADDITION
F.F. 806.75

GRAPHIC SCALE



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	2/18/2021	RECORD



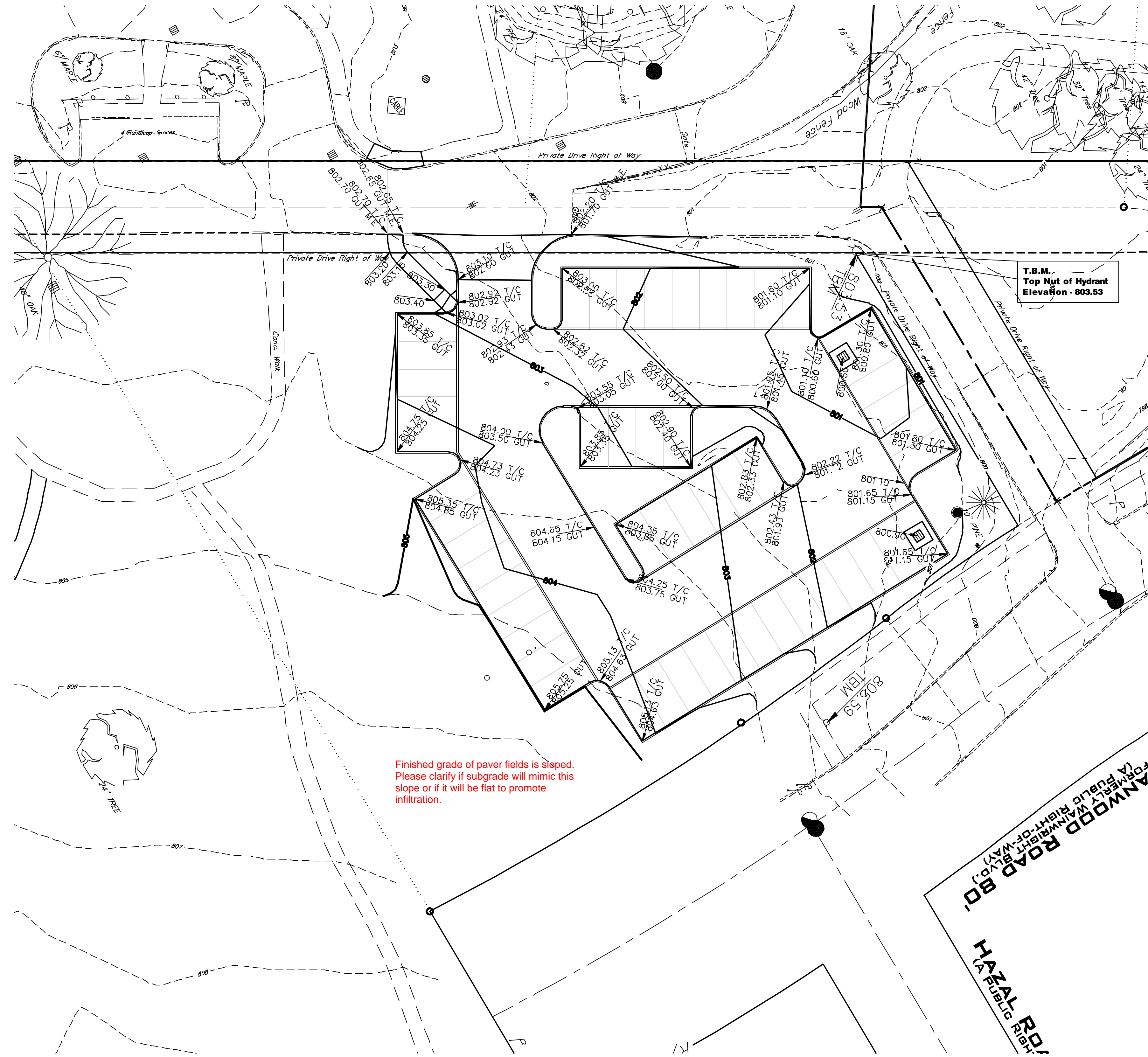
SENIOR INDEPENDENT LIVING
VOLUME 1: NEW SENIOR APARTMENT BUILDING
14860 PRIVATE DRIVE, EAST CLEVELAND, OHIO 44112



PROJECT NO: 2019.25
TITLE:
GRADING PLAN

DRAWING NUMBER:
C5.01

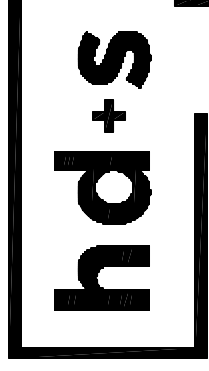
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T.B.M.
Top Njt of Hydrant
Elevation - 803.53

Finished grade of paver fields is sloped.
Please clarify if subgrade will mimic this
slope or if it will be flat to promote
infiltration.

Provide a summary table that shows drainage areas to each separate paver footprint. Ensure the drainage area of traditional pavement is no greater than 2X the area of the receiving paver field. You can discount upslope paver fields with grades that pitch toward downslope fields (it is assumed the direct rainfall will infiltrate).



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	2/18/2021	RECORD

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VOLUME 1: NEW SENIOR APARTMENT BUILDING
14860 PRIVATE DRIVE, EAST CLEVELAND, OHIO 44112

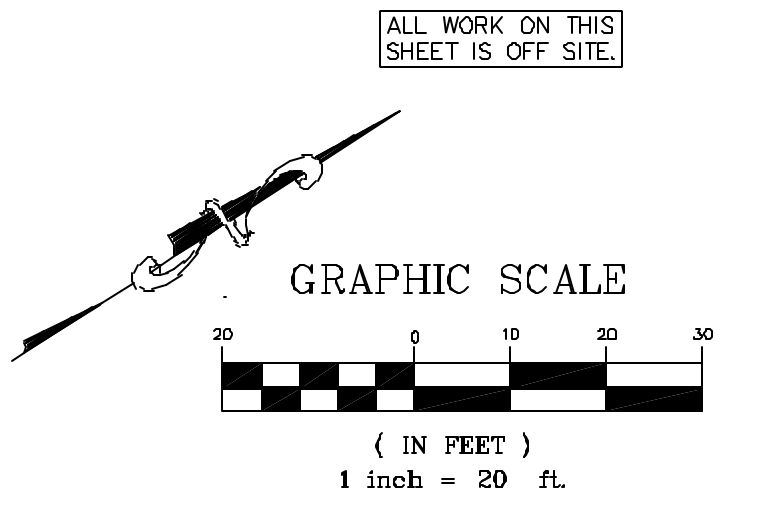


PROJECT NO: 2019.25
TITLE:
Grading Plan
DRAWING NUMBER:
C5.03
© 2020 Hiti, DiFrancesco and Siebold, Inc.

<ul style="list-style-type: none"> Monument Box Found Iron Pin or Pipe Found 5/8" Iron Pin Set and Capped Riverstone Company Dudley P58747 P.K. Nail Gas Meter Gas Valve Utility Pole Light Pole Gay Anchor & Line Telephone Box Electric Box Cable Box Bollard 	<ul style="list-style-type: none"> Spot Elevation Tag Hydrant Water Service Valve Water Valve Water Meter Reducer Sanitary Manhole Sanitary Manhole Curb Inlet Catch Basin Round Curb Inlet Cleanout/Test Tee
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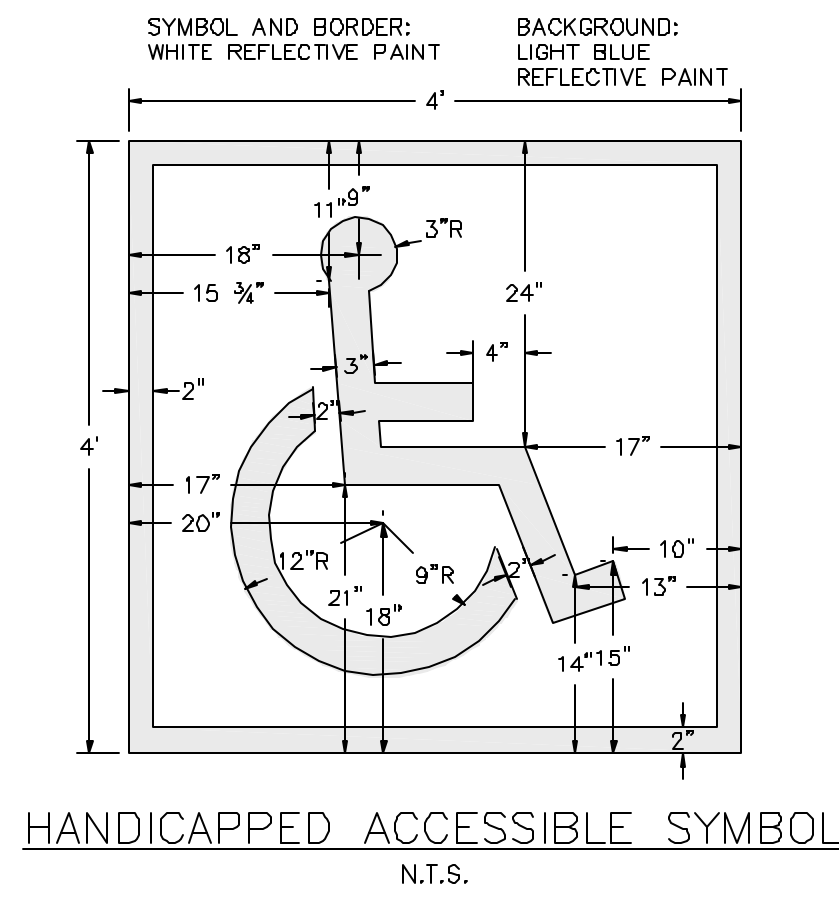
<ul style="list-style-type: none"> Ex. Parcel Line Original Sublot Line Original Lot Line Centerline Property Line Right-of-way Line Easement Line Railroad Tracks Electric Line Gas Line Sanitary/Combination Sewer Storm Sewer Waterline Fence Line (Wooden) Fence Line (Chain-Link) Guardrail 	<ul style="list-style-type: none"> Ac. Acres Adj. Adjacent Asp. Asphalt B.F. Basement Floor Calc./C. Calculated CB Catch Basin C.C.M.R. Cuyahoga County Map Records C. Centerline G.L.F. Chain-Link Fence Cir. Clears Conc. Concrete Cann. Connection D.H. Drill Hole D.I.W.M. Ductile Iron Water Main Elec. Electric Encr. Encroaches Ex. Existing F.F. Finished Floor
--	---

<ul style="list-style-type: none"> L.C.A. Limited Common Area Meas./M. Measured MH Manhole Obs. Observed Pg. Page P.P.N. Permanent Parcel Number P. Property Line Rec./R. Record R/W Right-of-way San. Sanitary S.F. Square Feet S/L Sublot Stm. Storm T.B.M. Temporary Bench Mark TBR To Be Removed TEL Telephone TF Top Footer Vol. Volume Wat. Water
--

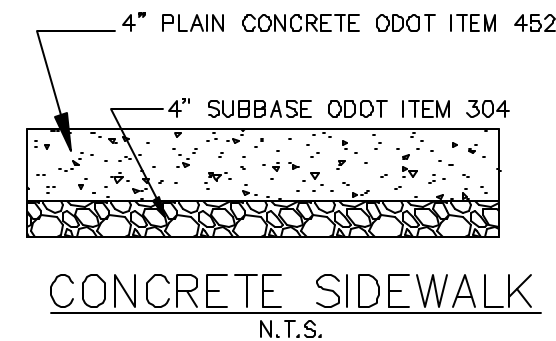


RIVERSTONE
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3800 LAKESIDE AVENUE - SUITE 100
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2020-117

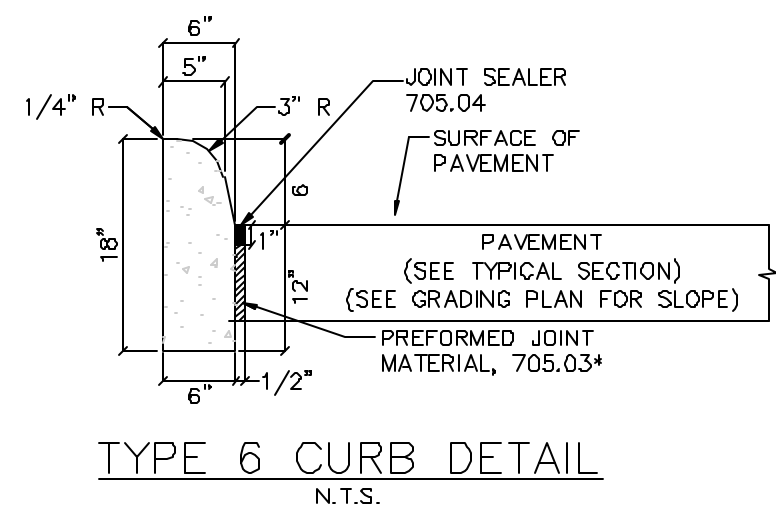




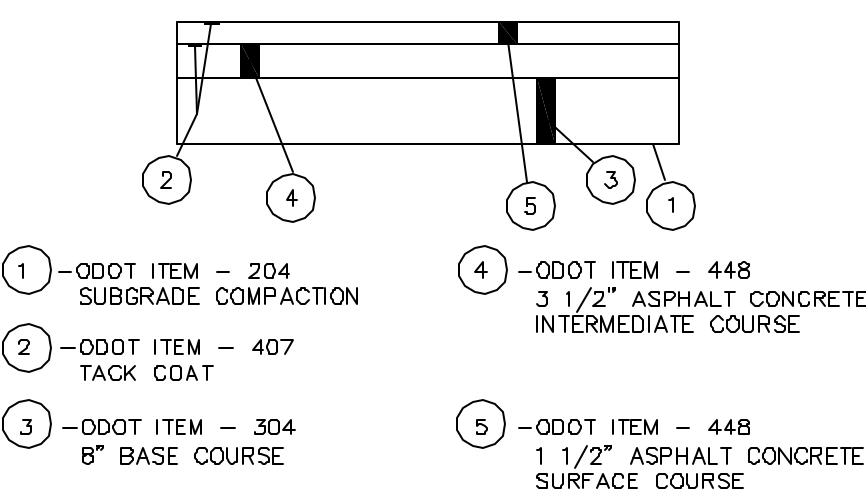
HANDICAPPED ACCESSIBLE SYMBOL
N.T.S.
(SHALL CONFORM TO LATEST ADA GUIDELINES)



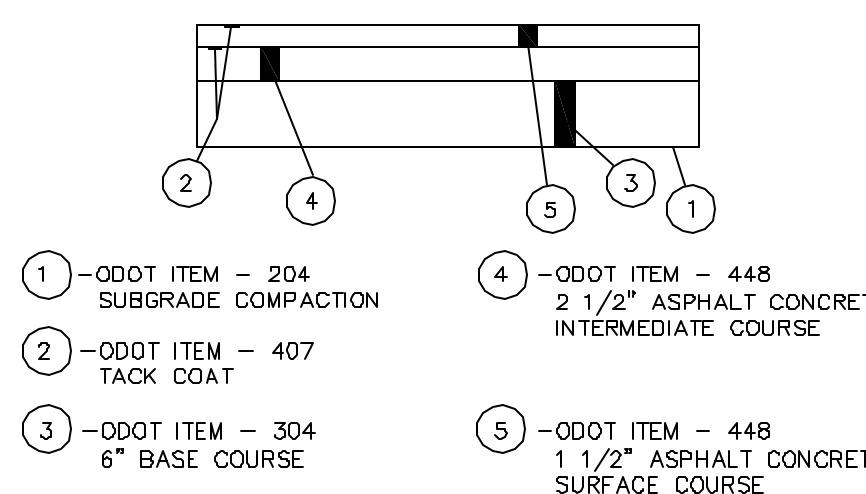
CONCRETE SIDEWALK
N.T.S.



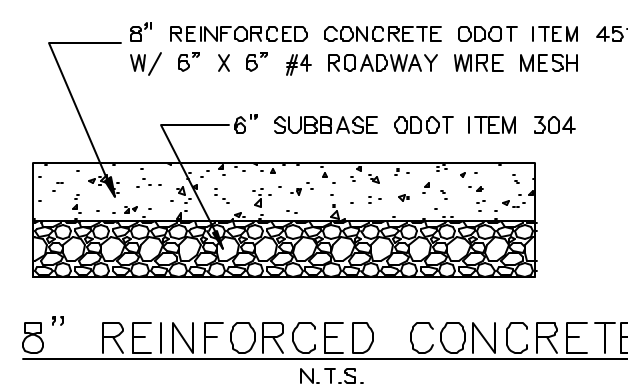
TYPE 6 CURB DETAIL
N.T.S.



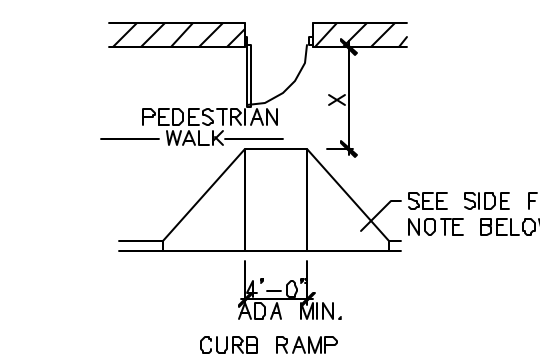
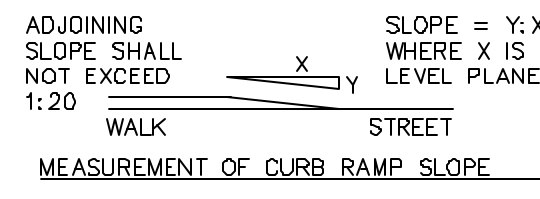
TYPICAL HEAVY DUTY ASPHALT SECTION
N.T.S.



TYPICAL LIGHT DUTY ASPHALT SECTION FOR PARKING ONLY
N.T.S.

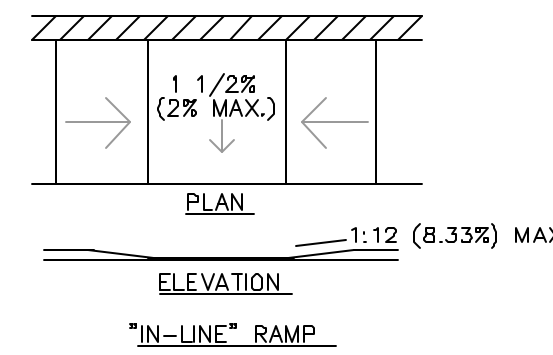


8" REINFORCED CONCRETE
N.T.S.

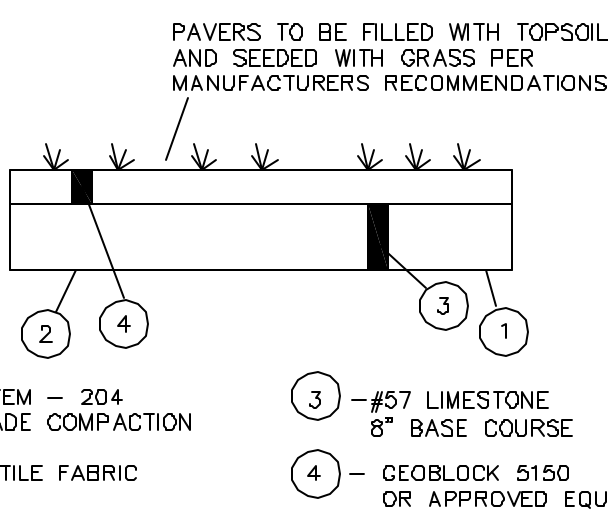


X IS 60" MIN. AT AN OUT SWING DOOR WITH A SLOPE OF 1:50 (2%) MAXIMUM. LEVEL SURFACE IS PREFERRED.

SIDE FLARE NOTE: (SEE REFERENCE DIAGRAM ABOVE). SIDE FLARES SHALL HAVE A MAXIMUM SLOPE OF 1:10 (10%) WHERE *X* IS LESS THAN 48". SIDE FLARE SLOPE SHALL BE 1:12 (8.33%) MAXIMUM.

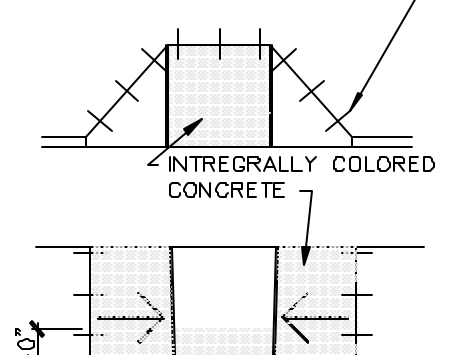


"IN-LINE" RAMP
N.T.S.



GRASS PAVER FIRE ACCESS PATH
N.T.S.

NOTE: ACCESSIBLE RAMPS AND CURB RAMPS WHERE POURING OF A SEPARATE INTEGRALLY COLORED CONCRETE IS REQUIRED, INSTALL SHEAR DOWELS 2'-0" O.C. AND KEYWAYS TO PREVENT HEAVING OF RAMPS W/ ADJACENT SIDEWALK OR CONC. SURFACE.



A CURB RAMP(S) MUST ALSO BE PROVIDED ALONG AN ACCESSIBLE PATH FROM THE PARKING LOT TO CURBED SIDEWALK.

A RAMP IS ANY SLOPE GREATER THAN 1:20 (5%) AND SHALL HAVE A MAXIMUM SLOPE OF 1:12 (8.33%). THE MAXIMUM SLOPE IS 1" OF RISE PER FOOT OF DISTANCE TRAVELED. ALL SLOPED AREAS OF THE RAMP ARE TO HAVE AN INTEGRAL COLOR CONTRASTING ADJACENT CONCRETE.

THE CLEAR WIDTH OF ANY RAMP IS A MINIMUM OF 48".

CURB RAMPS DO NOT REQUIRE HANDRAILS. ANY OTHER RAMP WITH GREATER THAN A 6" RISE SHALL HAVE HANDRAILS ON BOTH SIDES. EDGE PROTECTION CONSISTS OF CURBS, WALLS, RAILINGS, OR PROJECTING SURFACES THAT PREVENT PEOPLE FROM SLIPPING OFF THE RAMP. HANDRAIL DETAILS SHALL FOLLOW ACCESSIBLE GUIDELINES.

CURB RAMPS MUST HAVE A DETECTABLE WARNING FEATURE EXTENDING THE FULL WIDTH AND DEPTH OF THE RAMP. THE DETECTABLE SURFACE MUST CONSIST OF RAISED TRUNCATED DOMES WITH A DIAMETER OF NOMINAL 0.9 INCHES, A HEIGHT OF NOMINAL 0.2 INCHES AND A CENTER-TO-CENTER SPACING OF NOMINAL 2.35 INCHES. THE TEXTURE OF THE DETECTABLE WARNING FEATURE MUST CONTRAST WITH THE SURROUNDING SURFACES (EITHER LIGHT-ON-DARK OR DARK-ON-LIGHT). SEE ABOVE.

CURB RAMPS AND DETECTABLE WARNINGS
N.T.S.

NOTE: A CURB RAMP(S) MUST BE PROVIDED ALONG AN ACCESSIBLE PATH FROM THE PARKING LOT TO CURBED SIDEWALK.

A CURB RAMP(S) MUST ALSO BE PROVIDED IN THE PARKING LOT AT ALL INTERMEDIATE AND PERIMETER CURBS ALONG THE ACCESSIBLE ROUTE CONNECTING TO PUBLIC SIDEWALKS.

A RAMP IS ANY SLOPE GREATER THAN 1:20 (5%) AND SHALL HAVE A MAXIMUM SLOPE OF 1:12 (8.33%). THE MAXIMUM SLOPE IS 1" OF RISE PER FOOT OF DISTANCE TRAVELED. ALL SLOPED AREAS OF THE RAMP ARE TO HAVE AN INTEGRAL COLOR CONTRASTING ADJACENT CONCRETE.

THE CLEAR WIDTH OF ANY RAMP IS A MINIMUM OF 48".

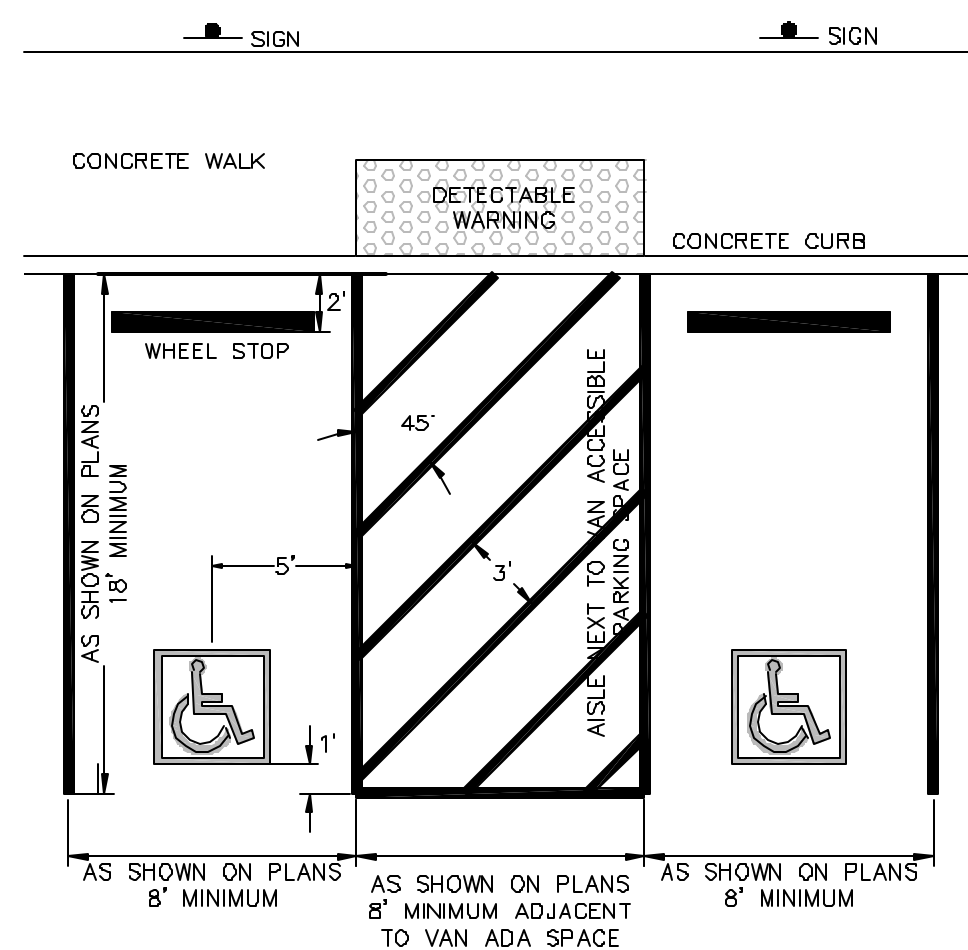
CURB RAMPS DO NOT REQUIRE HANDRAILS. ANY OTHER RAMP WITH GREATER THAN A 6" RISE SHALL HAVE HANDRAILS ON BOTH SIDES. EDGE PROTECTION CONSISTS OF CURBS, WALLS, RAILINGS, OR PROJECTING SURFACES THAT PREVENT PEOPLE FROM SLIPPING OFF THE RAMP. HANDRAIL DETAILS SHALL FOLLOW ACCESSIBLE GUIDELINES.

CURB RAMPS MUST HAVE A DETECTABLE WARNING FEATURE EXTENDING THE FULL WIDTH AND DEPTH OF THE RAMP. THE DETECTABLE SURFACE MUST CONSIST OF RAISED TRUNCATED DOMES WITH A DIAMETER OF NOMINAL 0.9 INCHES, A HEIGHT OF NOMINAL 0.2 INCHES AND A CENTER-TO-CENTER SPACING OF NOMINAL 2.35 INCHES. THE TEXTURE OF THE DETECTABLE WARNING FEATURE MUST CONTRAST WITH THE SURROUNDING SURFACES (EITHER LIGHT-ON-DARK OR DARK-ON-LIGHT). SEE ABOVE.

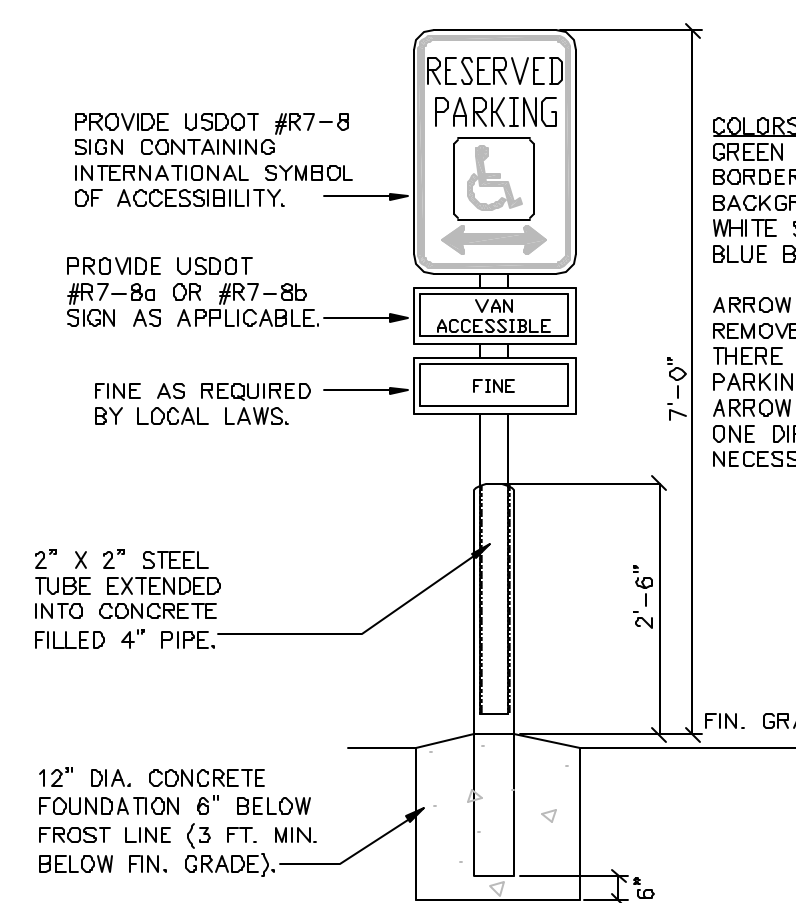
ASPHALT PAVEMENT REPAIR
N.T.S.

DOWEL TABLE	
PAVEMENT THICKNESS	DIAMETER OF DOWELS
8" OR LESS	1"
9"	1.125"
10"	1.25"
OVER 10"	AS DIRECTED

- NOTES:
- ALL PAVEMENT OPENINGS SHALL BE SAWED FULL DEPTH AND HAVE SMOOTH VERTICAL FACES. DOWELS SHALL BE REQUIRED, AS PER DOWEL TABLES.
 - ASPHALT RESURFACING SHALL BE PERFORMED IN SUCH A MANNER THAT THE ENTIRE LANE IN WHICH THE REPAIR AREA IS LOCATED SHALL BE RESTORED. SHOULD ANY PORTION OF THE REPAIR AREA EXTENDS INTO AN ADJACENT LANE, THAT LANE SHALL ALSO BE RESURFACED. FOR PAVEMENTS WITH A WIDTH OF 40' OR LESS A LANE SHALL BE CONSIDERED 1/2 THE PAVEMENT WIDTH.
 - EXTEND OVERCUT IN LONGITUDINAL DIRECTION TWO FEET (2') ONTO UNDISTURBED SUBGRADE.
 - ALL BACKFILL MATERIALS USED UNDER ANY PAVEMENTS SHALL BE PREMIUM BACKFILL PLACED FROM THE INITIAL ONE FOOT FILL OVER THE TOP OF UTILITIES. TO PREVENT FLOTATION AND ENTRY OF FLOWABLE FILL INTO ANY OTHER AREAS, TO THE SUBGRADE.
 - COVER ALL JOINTS IN CLAY PIPE IN THE TRENCH AREA WITH POLYETHYLENE MATERIAL BEFORE POURING FLOWABLE FILL. REPAIR TECHNIQUES SHALL BE IN ACCORDANCE WITH THE UTILITY COMPANY'S STANDARD REPAIR PROCEDURES.



PARKING STALL DETAIL
N.T.S.
(SHALL CONFORM TO LATEST ADA GUIDELINES)



ADA PARKING SIGN & POST
N.T.S.

GENERAL NOTES

- A PRE-CONSTRUCTION CONFERENCE SCHEDULED BY THE CONTRACTOR SHALL BE HELD PRIOR TO START OF ANY WORK. IN ADDITION, THE CONTRACTOR SHALL PROVIDE 48 HOURS NOTICE TO THE CITY ENGINEER PRIOR TO BEGINNING WORK TO ARRANGE FOR INSPECTION.
- ANY AND ALL CHANGES IN PLAN QUANTITIES OR MATERIALS SHALL BE APPROVED IN WRITING BY THE DEVELOPER PRIOR TO INCORPORATION IN THE WORK.
- EARTHWORK QUANTITIES:
 - ALL STUMPS, TREES AND OTHER CONSTRUCTION DEBRIS SHALL BE DISPOSED OF BY THE CONTRACTOR OFF-SITE.
 - THE CONTRACTOR SHALL PLACE AND COMPACT ALL SUITABLE FILL MATERIAL EXCAVATED DURING HIS CONSTRUCTION OPERATIONS WITHIN THE FILL AREAS DESIGNATED ON THE GRADING PLAN AND/OR AS DIRECTED BY THE DEVELOPER AND/OR HAULLED OFF-SITE AT THE DEVELOPER'S DISCRETION.
 - NO DISPOSAL SITE WITHIN THE PROJECT LIMITS SHALL BE UTILIZED.
- SEEDING AND MULCHING: SEDIMENT CONTROL SHALL BE ACCOMPLISHED BY SEEDING AND MULCHING IMMEDIATELY UPON COMPLETION OF EXCAVATION OR FILL AND FINISHED GRADING IN ACCORDANCE WITH ITEM 659 OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS OR AS DIRECTED BY THE ENGINEER.
- ALL TRENCHES IN PAVED AREAS SHALL BE BACKFILLED WITH GRANULAR MATERIALS FROM THE TOP OF THE TRENCH BEDDING. BACKFILL TO BE MECHANICALLY COMPACTED. SLAG NOT ALLOWED.
- ROOF DRAINS, FOUNDATION DRAINS AND OTHER CLEAN WATER CONNECTIONS TO THE SANITARY SYSTEM PROHIBITED.
- PRIOR TO CONNECTION CONSTRUCTION, CONTRACTOR TO VERIFY LOCATIONS, SIZE AND DEPTH OF EXISTING SEWER & WATER TIE-INS.
- THE UTILITY OWNERSHIPS ARE AS FOLLOWS: OUPS CONTACTED 03/01/2017, #A706002673

- OHIO UTILITIES PROTECTION SERVICE TIME WARNER COMMUNICATION
106 WEST RYAN - ROOM 427 YOUNGSTOWN, OHIO 44051 PH: (800) 382-2764
- CITY OF CLEVELAND DIVISION OF WATER
1201 LAKESIDE AVENUE CLEVELAND, OHIO 44114 PH: (216) 664-2444
- THE ILLUMINATING COMPANY
6895 MILLER ROAD, SUITE 101 BROOKVILLE, OHIO 44111 PH: (216) 622-9800
- NORTH EAST REGIONAL SEWER DISTRICT DIVISION OF ENGINEERING
3900 EUGLID AVENUE CLEVELAND, OH 44114-2504 PH: (216) 881-6600
- UNITE PRIVATE NETWORKS
7200 NW 86TH STREET, SUITE M KANSAS CITY, MO 64153 PH: (816) 903-9400
- DOMINION EAST OHIO GAS CO.
320 SPRINGSIDE DRIVE, SUITE 320 AKRON, OHIO 44333 PH: (877) 542-2650
- AT&T
13630 LORAIN AVENUE, ROOM 200 CLEVELAND, OHIO 44111 PH: (216) 882-6291

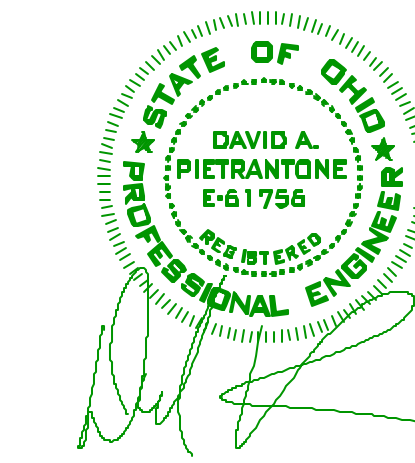
ENVIRON. IMPACT NOTES

- IF, DURING THE COURSE OF CONSTRUCTION, EVIDENCE OF ANY DEPOSIT OF HISTORICAL AND/OR ARCHAEOLOGICAL INTEREST IS FOUND, CEASE OPERATIONS AFFECTING THE FIND AND NOTIFY THE OHIO HISTORIC PRESERVATION OFFICE AT (614) 297-3470. NO FURTHER DISTURBANCE OF THE DEPOSITS SHALL OCCUR UNTIL THE CONTRACTOR HAS BEEN NOTIFIED BY THE OWNER THAT HE OR SHE MAY PROCEED. THE OWNER WILL ISSUE THE NOTICE TO PROCEED ONLY AFTER THE STATE OHIO OFFICIAL HAS SURVEYED THE FIND AND MADE SUCH A DETERMINATION.
- ACCESS FOR EMERGENCY VEHICLES MUST BE PROVIDED AT ALL TIMES.
- THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING LOCAL ACCESS TO ALL RESIDENCES AND BUSINESSES, AND TO PROVIDE WHATEVER TEMPORARY MATERIALS ARE NECESSARY TO PROVIDE A SAFE, ADEQUATE DRIVE SURFACE.
- NO MANHOLE OR SEWER EXCAVATION WILL BE LEFT OPEN AWAITING CONNECTION OR REMOVAL AT A LATER DATE BY THE CONTRACTOR'S FORCES, OR OTHERS, BUT SHALL BE TEMPORARILY BACKFILLED AND RESURFACED, IF APPLICABLE, WITH A TEMPORARY PAVEMENT PASSABLE TO TRAFFIC.
- BALE FILTER DIKES SHALL BE PLACED AROUND ALL STORM SEWER CATCH BASINS LOCATED IN PROXIMITY TO CONSTRUCTION.
- NO MORE THAN 200 TO 300 FEET OF SEWER TRENCH SHALL REMAIN OPEN AT ONE TIME. MATERIALS EXCAVATED DURING TRENCHING SHALL BE PILED ON THE UPHILL SIDE OF THE TRENCH.
- STOCKPILED TOPSOIL AND FILL MATERIALS SHALL BE PROTECTED WITH EROSION CONTROL BARRIERS OR TEMPORARY SEEDING. EXCESS SOIL THAT IS STOCKPILED MUST BE EITHER REMOVED OR REGRADED WITHIN 15 DAYS OF THE COMPLETION OF CONSTRUCTION.
- IF TREE REMOVAL IS NECESSARY, TREES SHALL BE FELLED IN A MANNER THAT AVOIDS DAMAGE TO ADJACENT REMAINING TREES. WHERE ROOT DAMAGE CANNOT BE AVOIDED, PRUNING AND PAINTING AS APPROPRIATE TO COMPENSATE FOR DAMAGE WILL BE DONE BY AN AUTHORIZED ARBORIST.

PROOF ROLL

A MINIMUM OF TWO (2) PROOF ROLLINGS WILL BE REQUIRED AS DIRECTED BY THE ENGINEER BEFORE PAVING. THE FIRST PROOF ROLLING SHALL BE PERFORMED AFTER THE INSTALLATION OF ALL UNDERGROUND IMPROVEMENTS AND ROUGH GRADING HAS BEEN COMPLETED. AFTER FINE GRADING, JUST PRIOR TO PAVING, THE SUBGRADE SHALL BE PROOF ROLLED AGAIN. A PROOF ROLLING SHALL CONSIST OF TRAVELING THE ENTIRE AREA OF THE PREPARED SUBGRADE WITH A FULLY LOADED TANDEM AXLE DUMP TRUCK PROVIDED BY THE CONTRACTOR. MOISTURE CONTENT ADJUSTMENT METHODS USED AT THE TIME OF PROOF ROLLING SHALL CONFORM TO SECTION 204 (1997) OF THE OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS. WHERE THIS OPERATION SHOWS THE SUBGRADE TO BE UNSTABLE OR TO HAVE NON-UNIFORM STABILITY, THE CONTRACTOR SHALL CORRECT THE UNSTABLE AREAS AS DIRECTED BY THE ENGINEER. THE MINIMUM EQUIPMENT SHALL CONSIST OF A SINGLE UNIT, TANDEM AXLE DUMP TRUCK CAPABLE OF BEING LOADED TO 30,000 POUND AXLE LOAD, 80,000 POUND GVW. TIRE PRESSURE SHALL BE MAINTAINED AT 90 PSI OR AS SPECIFIED UNDER SECTION 204 (1997) OF ODOT SPECIFICATIONS. ANY AREA PERMITTING TIRES TO LEAVE A GROOVE OF ONE (1) INCH OR MORE SHALL BE UNACCEPTABLE FOR PAVING. ANY AREA PERMITTING THE TEST VEHICLE TIRES TO LEAVE A GROOVE OF ZERO (0) TO ONE-HALF (1/2) INCH DEEP SHALL BE ACCEPTABLE. ANY AREA PERMITTING THE TEST VEHICLE TIRES TO LEAVE A GROOVE OF ONE-HALF (1/2) INCH TO ONE (1) INCH DEEP SHALL BE AT THE ENGINEER'S DISCRETION.

MARK	DATE	PURPOSE
08/28/2020	80% SET	
10/16/2020	PRICING UPDATE	
11/02/2020	PERMIT	
2/18/2021	NECR-SD	

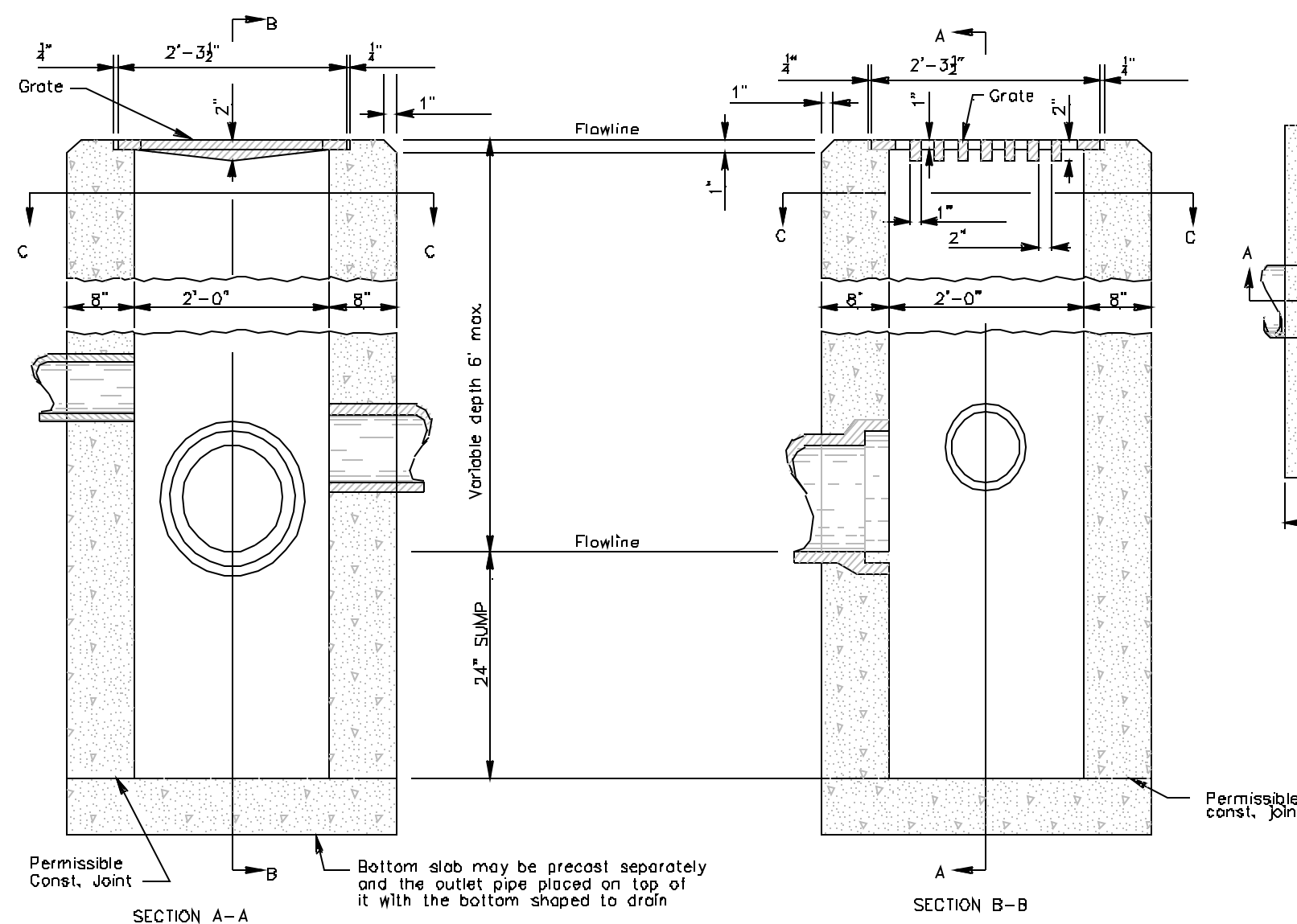


LAND SURVEYING - ENGINEERING - DESIGN
3800 LAKESIDE AVENUE - SUITE 100
CLEVELAND - OHIO - 44114
PHONE: (216) 491-2000 FAX: (216) 491-9640
WWW.RIVERSTONESURVEY.COM



NOTES FOR STORM SEWERS

- THE FOLLOWING PIPES ARE APPROVED FOR THIS PROJECT:
 - 18" & UNDER - V.C.P. C-700 ES w/PREM. JTS.
 - 21" & OVER - R.C.P. CL. III w/PREM. JTS.
 - PVC SDR 35 FOR SEWER DEPTHS LESS THAN 13'
 - PVC SDR 26 FOR SEWER DEPTHS MORE THAN 13'
 - ALUMINIZED SPIRAL RIBBED PIPE
 - HDPE
- PIPE REQUIRES #57 LESTONE BACKFILL 12" OVER TOP OF PIPE
- CONTRACTOR SHALL INCLUDE COST OF GRANULAR BACKFILL MATERIAL UNDER ALL EXISTING AND PROPOSED PAVEMENTS IN PRICE BID PER LINEAL FOOT OF PIPE
- PRIOR TO THE ACCEPTANCE OF THE COMPLETED SEWER LINE, A MANDREL OF NOT LESS THAN NINETY-FIVE PERCENT (95%) OF THE AVERAGE CALCULATED REFERENCE INTERNAL DIAMETER OF THE PIPE SHALL BE PULLED BY HAND FREELY THROUGH EACH SECTION OF SEWER PIPE NOT LESS THAN THIRTY (30) DAYS AFTER INSTALLATION AND FINAL BACKFILL.
- BEDDING AND BACKFILL OF PIPE TRENCHES SHALL BE PER THE COUNTY STANDARD DETAIL.
- ANY SEWER TRENCH BACKFILL WITHIN THE PUBLIC ROW SHALL BE LSM BACKFILL.



NOTES:

CATCH BASINS 2-2B: This sheet depicts Catch Basin 2-2B.

GRATE: The design shall be essentially the same and equally as strong as the one shown (see construction information table), or meet the requirements of CMS 711.14. Grate openings and dimensions shall not differ from those shown unless otherwise shown in the plans.

If necessary, bicycle safe grates shall be specified in the plans. Bicycle safe grates shall be Neenah No. R-4859-C or East Jordan No. 5110 Type M3 or approved equal.

As of January 1, 2003, the following text shall be cast into the top of the grate: "DUMP NO WASTE" and "DRAINS TO WATERWAY". Text shall be printed in bold, capital letters with a minimum height of 1/2". "WATERWAY" may be substituted with "STREAM", "RIVER", "LAKE", etc. Actual placement and logo may vary per manufacturer.

WALLS: Brick or cast-in-place walls have a nominal thickness of 8". Precast walls shall have a minimum thickness of 6" and be reinforced sufficiently to permit shipping and handling without damage.

CONCRETE: Cast-in-place concrete is to be Class C. All precast concrete shall meet the requirements of CMS 706.13 and be marked with the catch basin number.

PRECAST BASE: If a precast base is used, it shall be set deep enough so that the top can be placed on the base to provide the grate elevation specified in the plans. Layers of brick shall not be used to adjust the top elevation.

LOCATION AND ELEVATION: When given on the plans, location and elevation are at the top center of the grate. When side openings are provided, the elevation shall be at the flow line of the side inlet.

MINIMUM DEPTH: The minimum depth for CB No. 2-2B shall be the O.D. of the outlet pipe plus 4".

2-2B GRATE ELEVATION: Grate elevation is to be placed 4" to 6" below normal ditch returning to normal 10' to 15' each side of inlet.

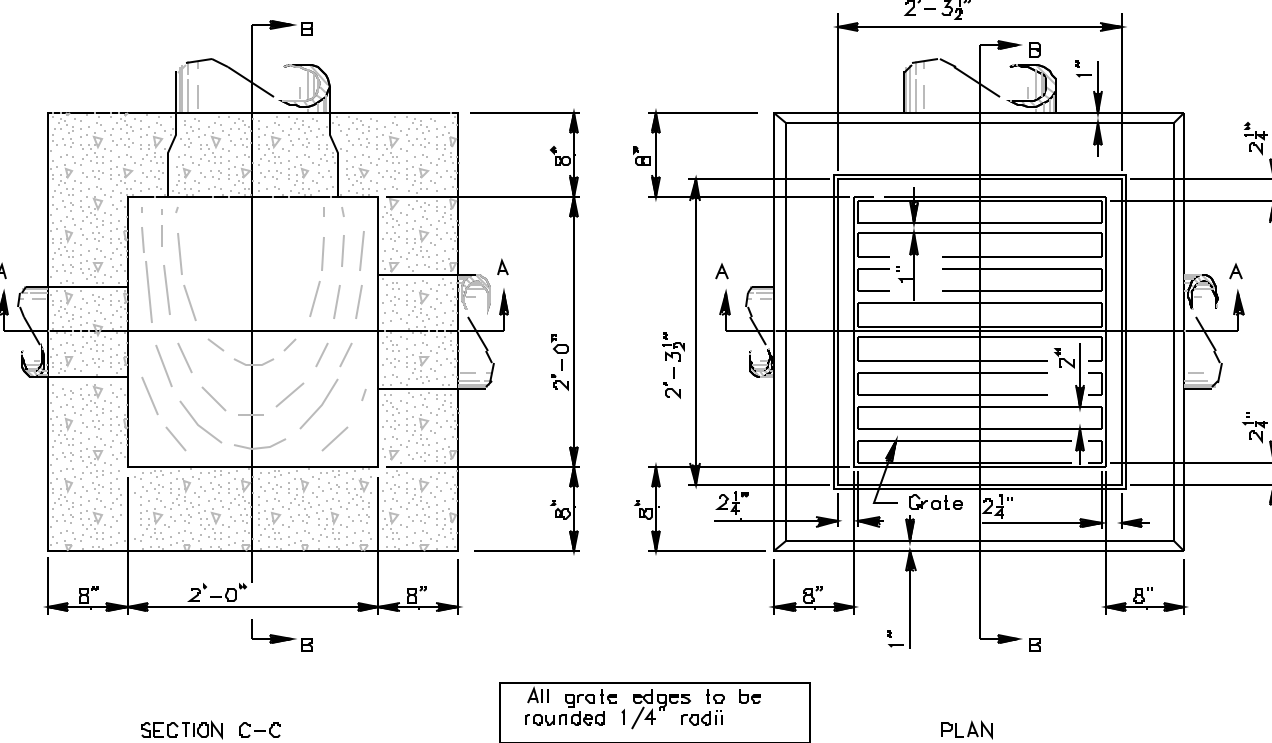
OPENINGS: Pipe openings shall be the O.D. of the pipe being supplied plus 2". When fabricated or field cut, the interstitial space shall be filled with gravel per CMS 601.

CATCH BASIN No. 2-2B

N.T.S.

NOTES FOR SANITARY SEWERS

- THE FOLLOWING PIPES ARE APPROVED FOR THIS PROJECT:
 - V.C.P. C-700 ES w/PREM. JTS. (ASTM C-425)
 - PVC SDR 35 FOR SEWER DEPTHS LESS THAN 13'
 - PVC SDR 26 FOR SEWER DEPTHS MORE THAN 13'
- ALL 6" SAN LATERAL CONNECTIONS SHALL BE AT A MINIMUM SLOPE OF 1.0%
- PIPE REQUIRES #57 LESTONE BACKFILL 12" OVER TOP OF PIPE
- CONTRACTOR SHALL INCLUDE COST OF GRANULAR BACKFILL MATERIAL UNDER ALL EXISTING AND PROPOSED PAVEMENTS IN PRICE BID PER LINEAL FOOT OF PIPE
- ALL SANITARY SEWER TO BE C.P. AIR TESTED PER ASTM C-828-80
- ALL SANITARY SEWER SYSTEMS MUST PASS AN INFILTRATION AND AN INFILTRATION TEST AFTER CONSTRUCTION HAS BEEN COMPLETED. THE MAXIMUM RATE OF INFILTRATION SHALL BE 100 GALLONS PER INCH DIAMETER OF SEWER PER MILE, PER DAY, FOR V.C.P. AND 50 GALLONS FOR PVC.
- PRIOR TO THE ACCEPTANCE OF THE COMPLETED SEWER LINE, A MANDREL OF NOT LESS THAN NINETY-FIVE PERCENT (95%) OF THE AVERAGE CALCULATED REFERENCE INTERNAL DIAMETER OF THE PIPE SHALL BE PULLED BY HAND FREELY THROUGH EACH SECTION OF SEWER PIPE NOT LESS THAN THIRTY (30) DAYS AFTER INSTALLATION AND FINAL BACKFILL.
- BEDDING AND BACKFILL OF PIPE TRENCHES SHALL BE PER THE COUNTY STANDARD DETAIL.
- ANY SEWER TRENCH BACKFILL WITHIN THE PUBLIC ROW SHALL BE LSM BACKFILL.

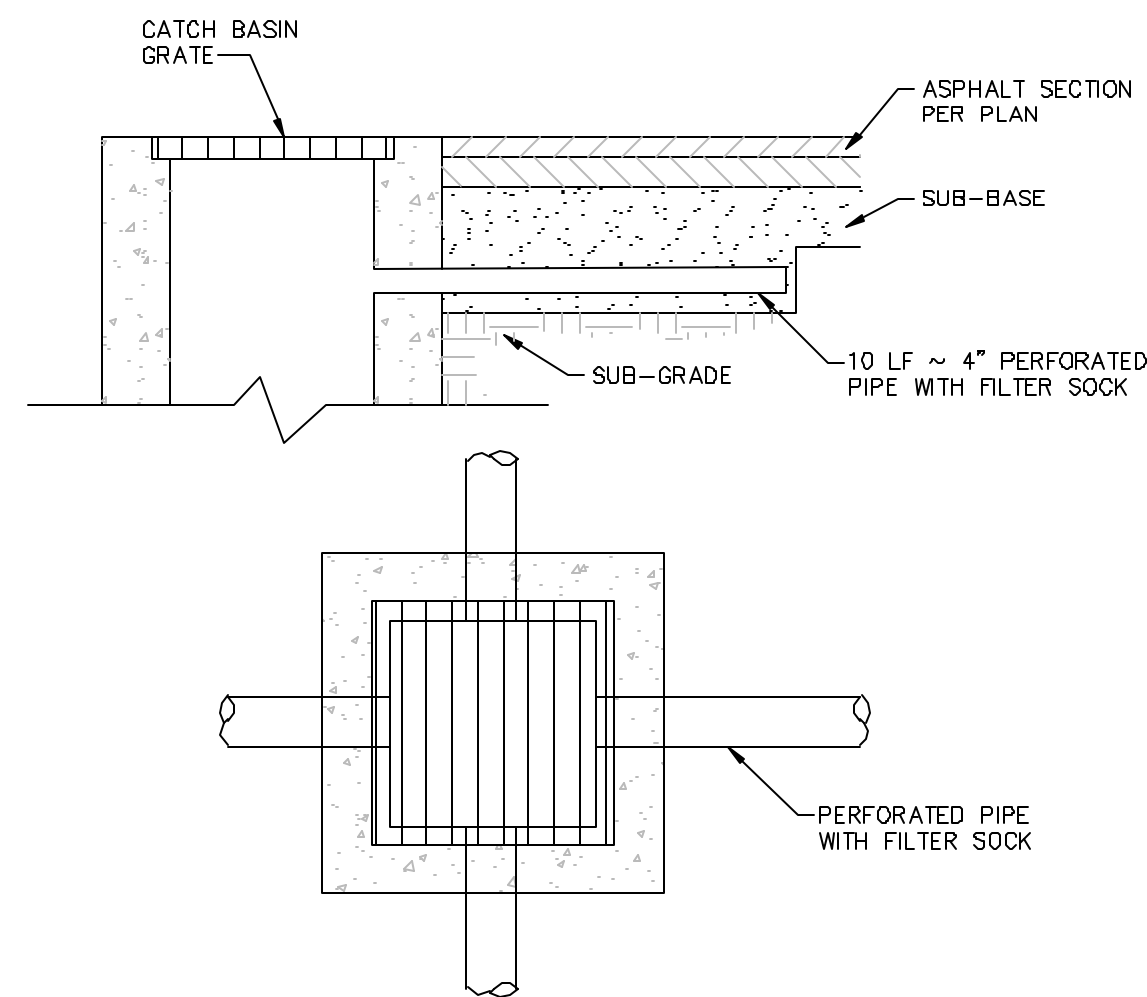


PAYMENT: All materials and labor, including excavation and backfilling shall be paid for under item 604 - Catch Basin, No. 2-2B.

CONSTRUCTION INFORMATION

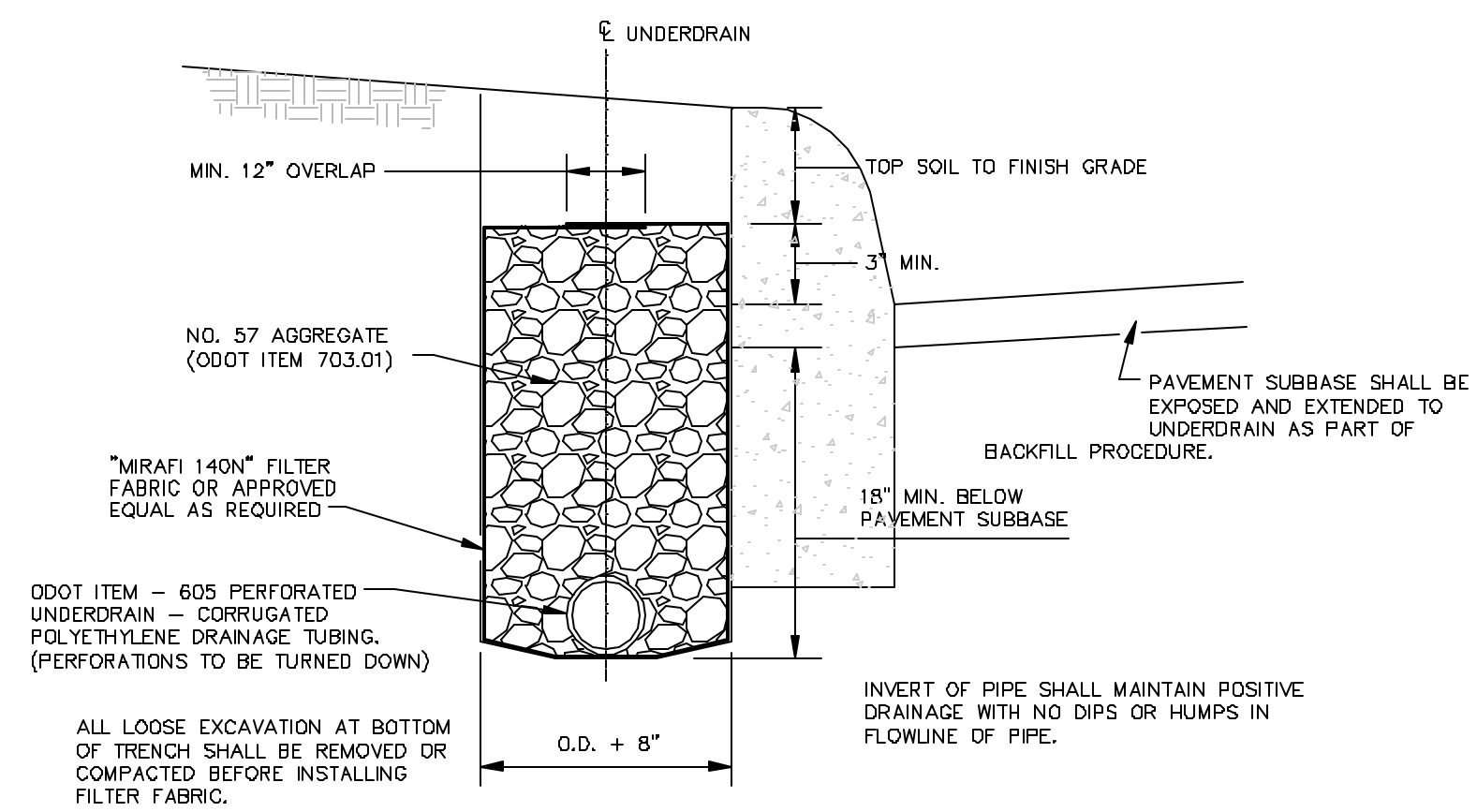
Minimum weight of grate, 120 lbs.

CATCH BASIN	OUTLET PIPE SIZE
2-2A	12" to 21" (300 to 525)
2-2B	12" to 21" (300 to 525)



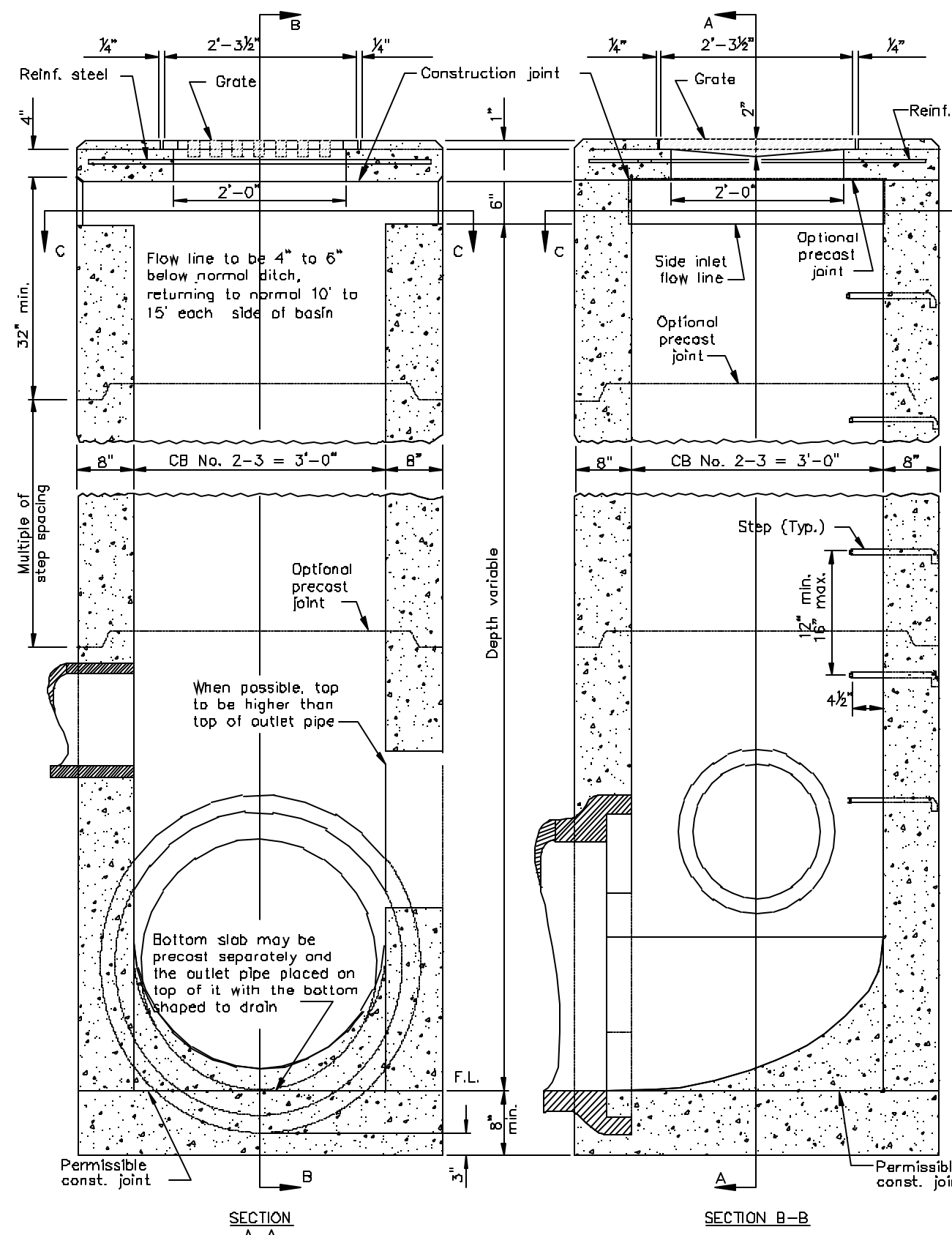
FINGER DRAIN DETAIL

N.T.S.



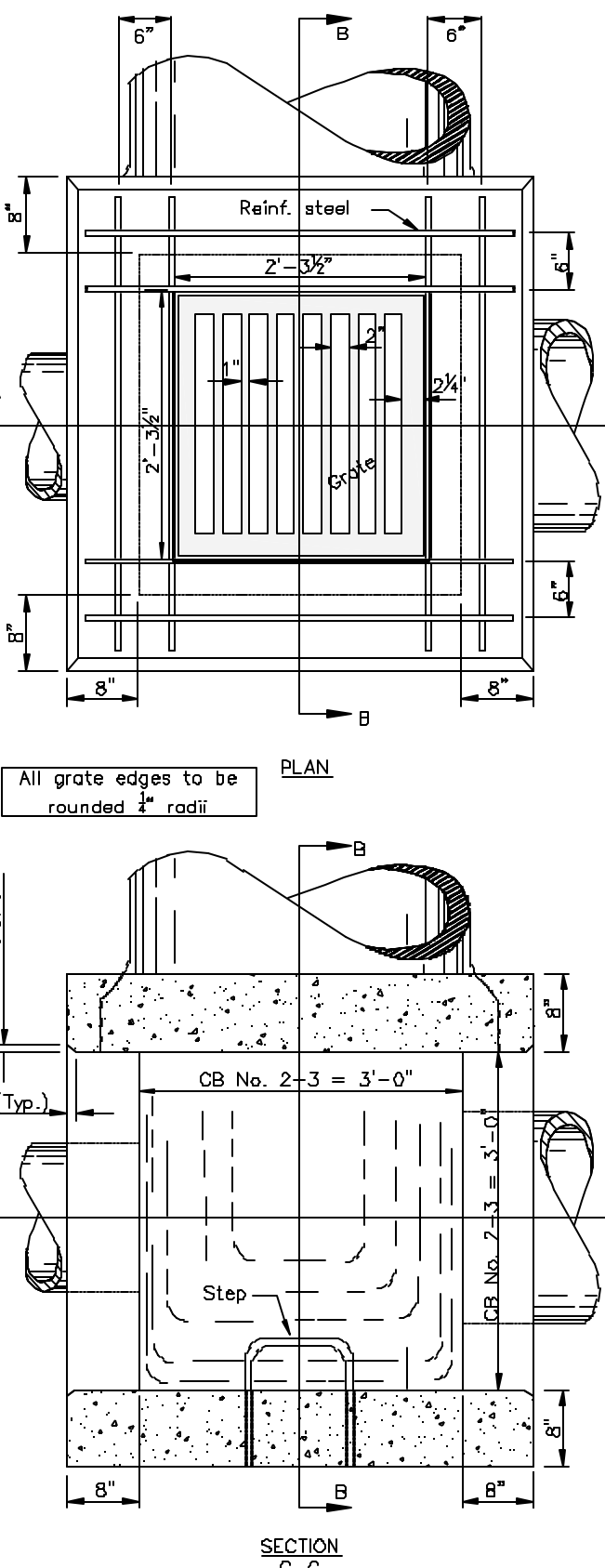
CURB UNDERDRAIN WITH FABRIC WRAP

N.T.S.



CATCH BASIN 2-3

N.T.S.



GRATE: The design shall be essentially the same and equally as strong as the one shown (see construction information table), or meet the requirements of CMS 711.14. Grate openings and dimensions shall not differ from those unless otherwise shown on the plan.

If necessary, bicycle safe grates shall be specified in the plans. Bicycle safe grates shall be Neenah No. R-4859-C or East Jordan No. 5110 Type M3 or approved equal.

As of January 1, 2003, the following text shall be cast into the top of the grate:

"DUMP NO WASTE" and "DRAINS TO WATERWAY". Text shall be printed in bold, capital letters with a minimum height of 1/2". "WATERWAY" may be substituted with "STREAM", "RIVER", "LAKE", etc. Actual placement and logo may vary per manufacturer.

WALLS: Brick or cast-in-place walls shall have a minimum thickness of 8". Precast walls shall have a minimum thickness of 6" and be reinforced sufficiently to permit shipping and handling without damage. Precast tops shall be 8" thick.

STEPS: Steps shall be provided where the depth exceeds 6' and shall meet the requirements of SDD MH-1.1.

CONCRETE: Cast-in-place concrete is to be Class C. All precast concrete shall meet the requirements of CMS 706.13 and be marked with the catch basin number.

REINFORCEMENT: Reinforcing in the top is to be #4 bars spaced at 6" center to center. For Catch Basin No. 2-3 use eight bars and for Catch Basin No. 2-4 use twelve bars.

INLETS OVER 12 FEET IN DEPTH: Shall be precast or cast-in-place concrete, reinforced with #4 bars on 12" centers both vertically and horizontally with 2" clearance from inside wall face.

PRECAST BASE: If a precast base is used, it shall be set deep enough so that the top can be placed on the base to provide the grate elevation specified in the plans. Layers of brick shall not be used to adjust the top elevation.

LOCATION AND ELEVATION: When given on the plans, the location and the elevation are at the top center of the grate. When side openings are provided, the elevation shall be at the flow line of the side inlet.

MINIMUM DEPTH: The minimum depth of CB No. 2-3 and CB No. 2-4 shall be the outside diameter (O.D.) of the outlet pipe plus 7".

OPENINGS: Pipe openings shall be the O.D. of the pipe being supplied plus 2" when prefabricated or field cut. Fill any voids per CMS 601.

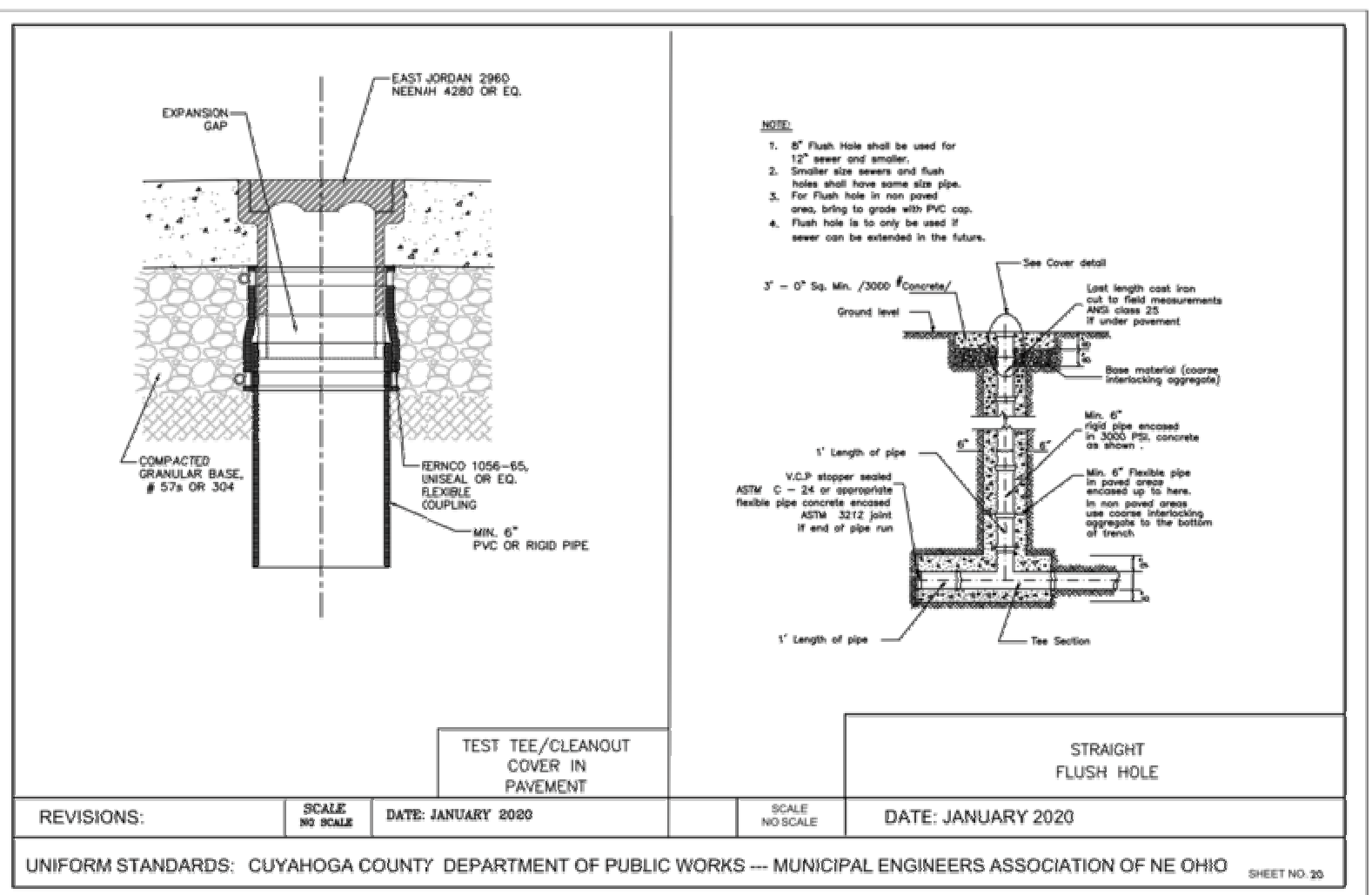
SIDE INLETS: Inlets shall be provided on both sides of the No. 2-3 and 2-4 catch basin in sags and on upstream side only where the ditch has a continuous down grade past the catch basin. Catch basins with side inlets shall not be used within the Clear Zone.

PAYMENT: All materials and labor, including excavation and backfill, shall be paid for under item 604 - Catch Basin, No. 2-3 or item 604 - Catch Basin, No. 2-4.

CATCH BASIN	OUTLET PIPE SIZE
2-3	12" to 33"

CONSTRUCTION INFORMATION

Minimum weight of grate 120 lbs.



TEST TEE/CLEANOUT COVER IN PAVEMENT

STRAIGHT FLUSH HOLE

REVISIONS:	SCALE:	DATE:	SCALE:	DATE:
	AS SHOWN	JANUARY 2020	AS SHOWN	JANUARY 2020

UNIFORM STANDARDS: CUYAHOGA COUNTY DEPARTMENT OF PUBLIC WORKS - MUNICIPAL ENGINEERS ASSOCIATION OF NE OHIO SHEET NO. 28



RIVERSTONE

LAND SURVEYING - ENGINEERING - DESIGN
3800 LAKESIDE AVENUE - SUITE 100
CLEVELAND - OHIO - 44114
PHONE: (216) 491-2000 FAX: (216) 491-9640
WWW.RIVERSTONE.SURVEY.COM

2020-117



SENIOR INDEPENDENT LIVING
VOLUME 1: NEW SENIOR APARTMENT BUILDING
14860 PRIVATE DRIVE, EAST CLEVELAND, OHIO 44112



PROJECT NO: 2019.25

TITLE:

NOTES & DETAILS

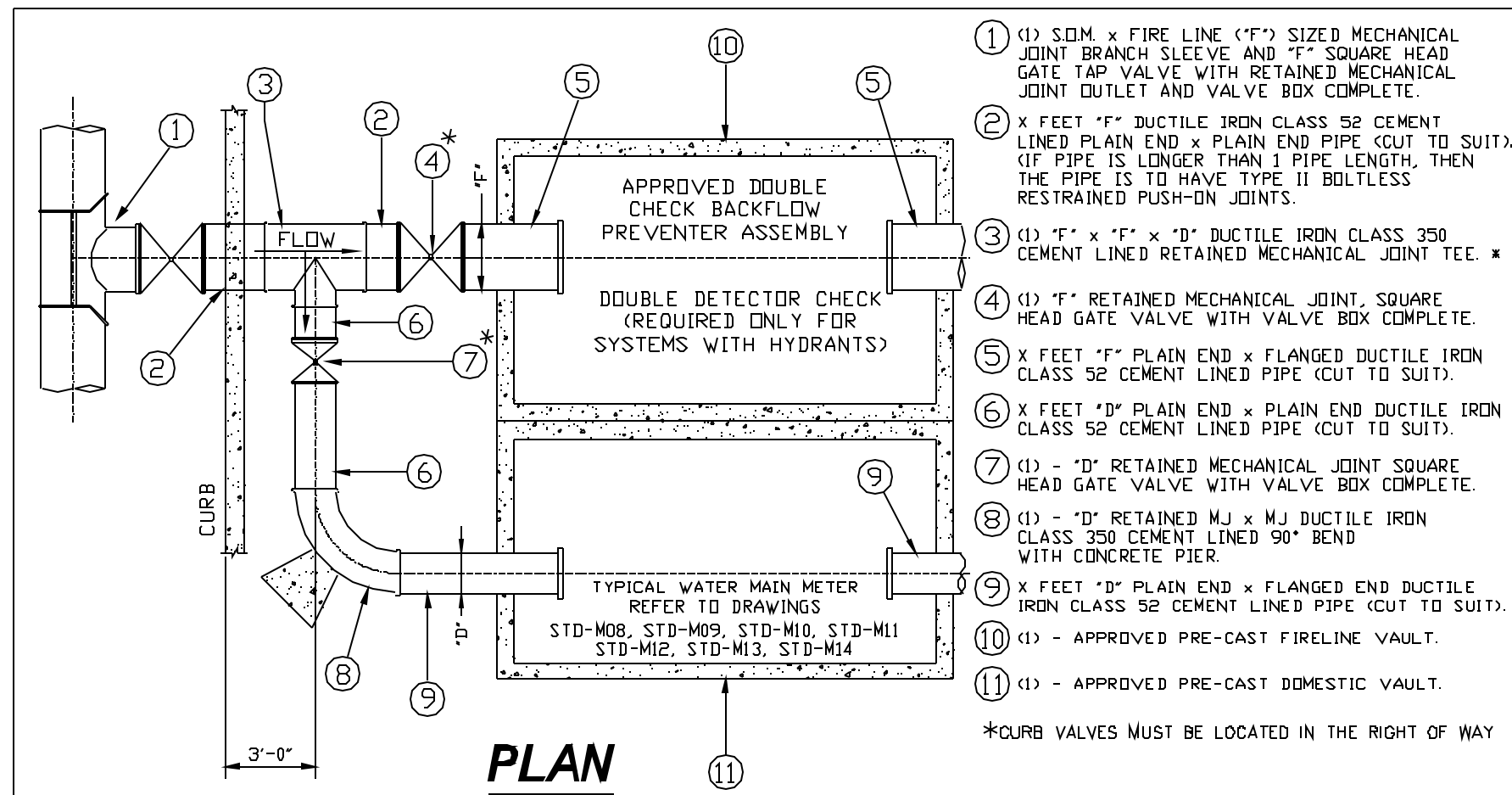
DRAWING NUMBER:

C6.02

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hd+s
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+ SIEBOLD
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MARK	DATE	PURPOSE
	08/28/2020	80% SET
	10/15/2020	PRICING UPDATE
	11/02/2020	PERMIT
	2/18/2021	NECRSD



"F" - DENOTES NOMINAL PIPE DIAMETER OF FIRE LINE.

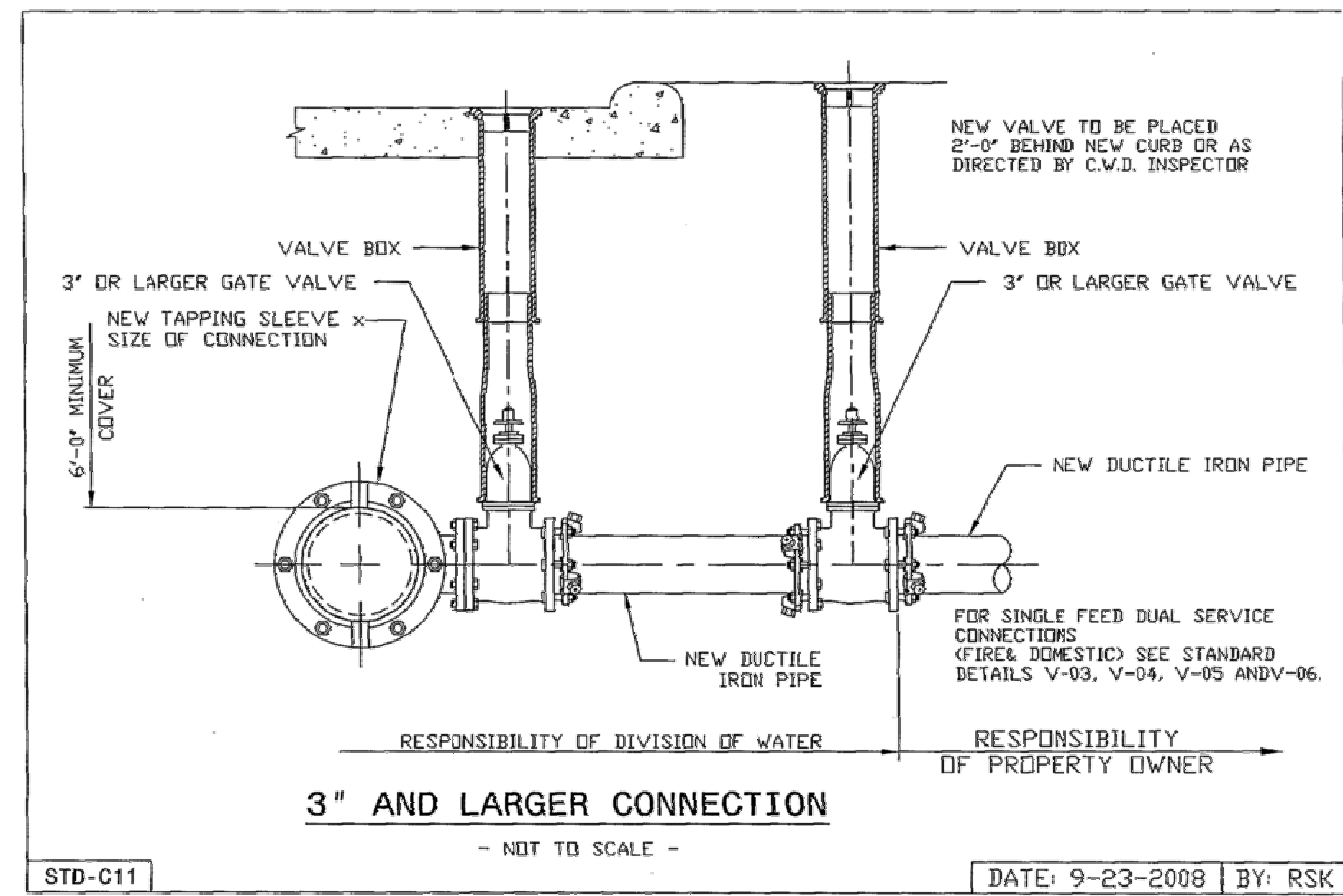
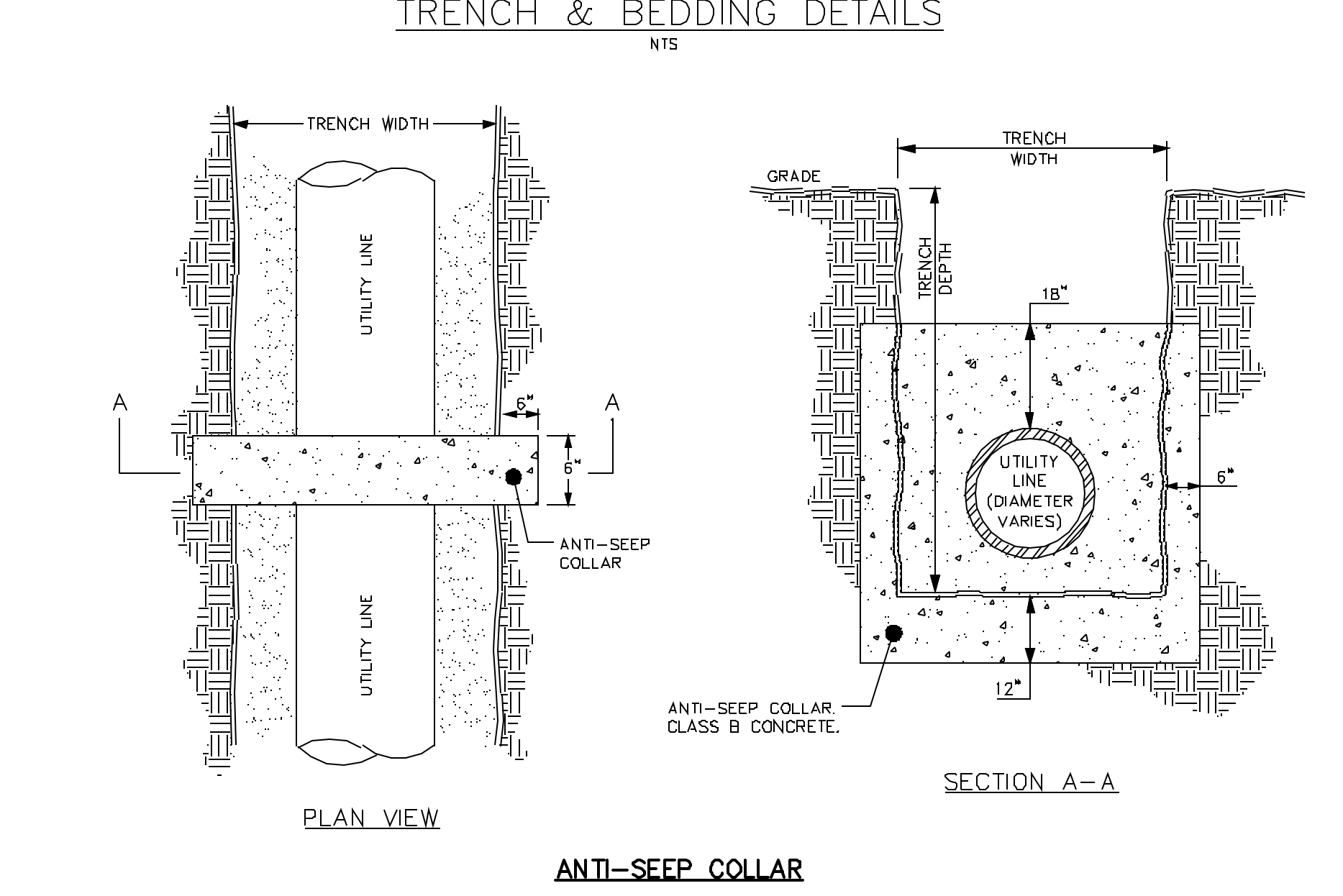
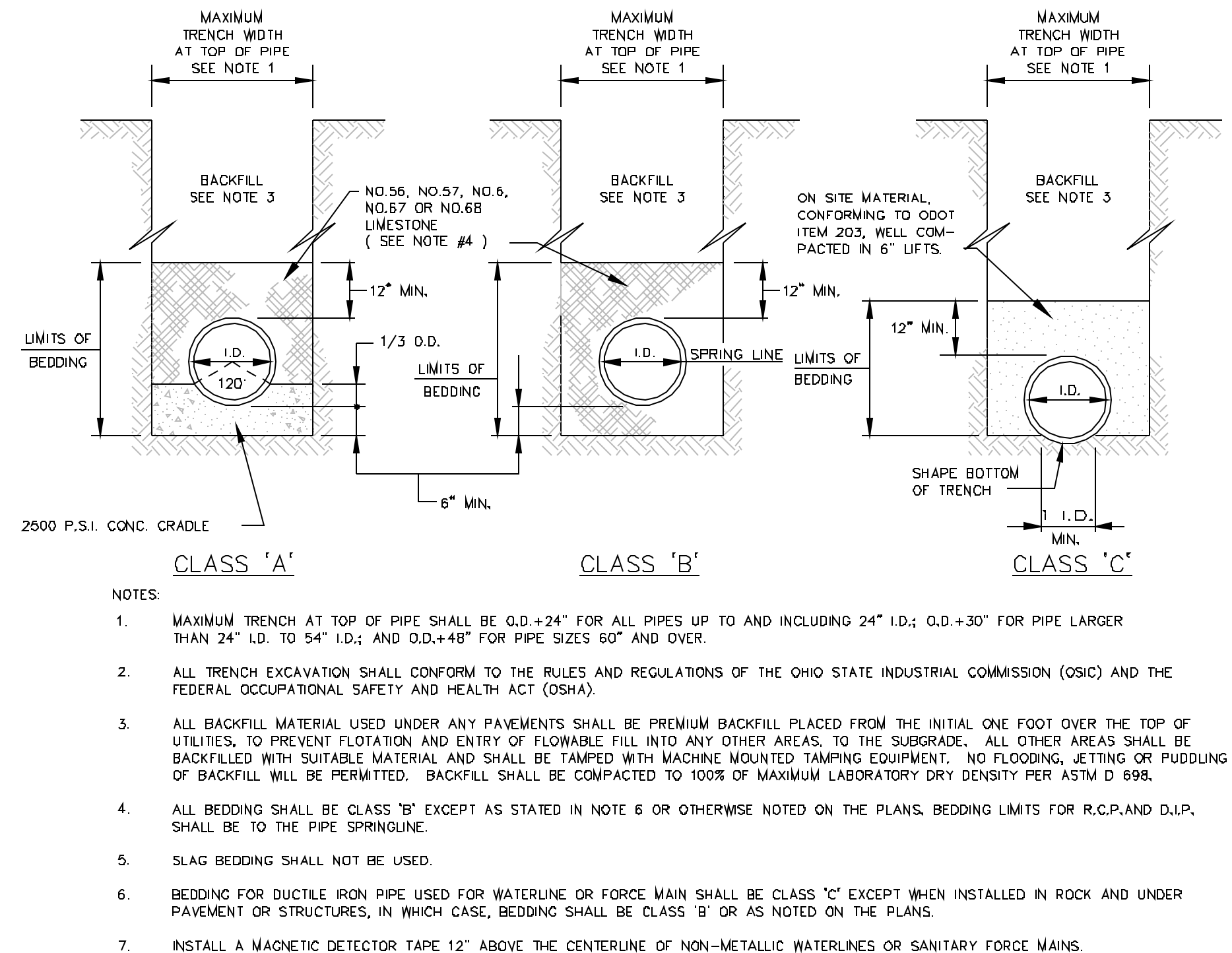
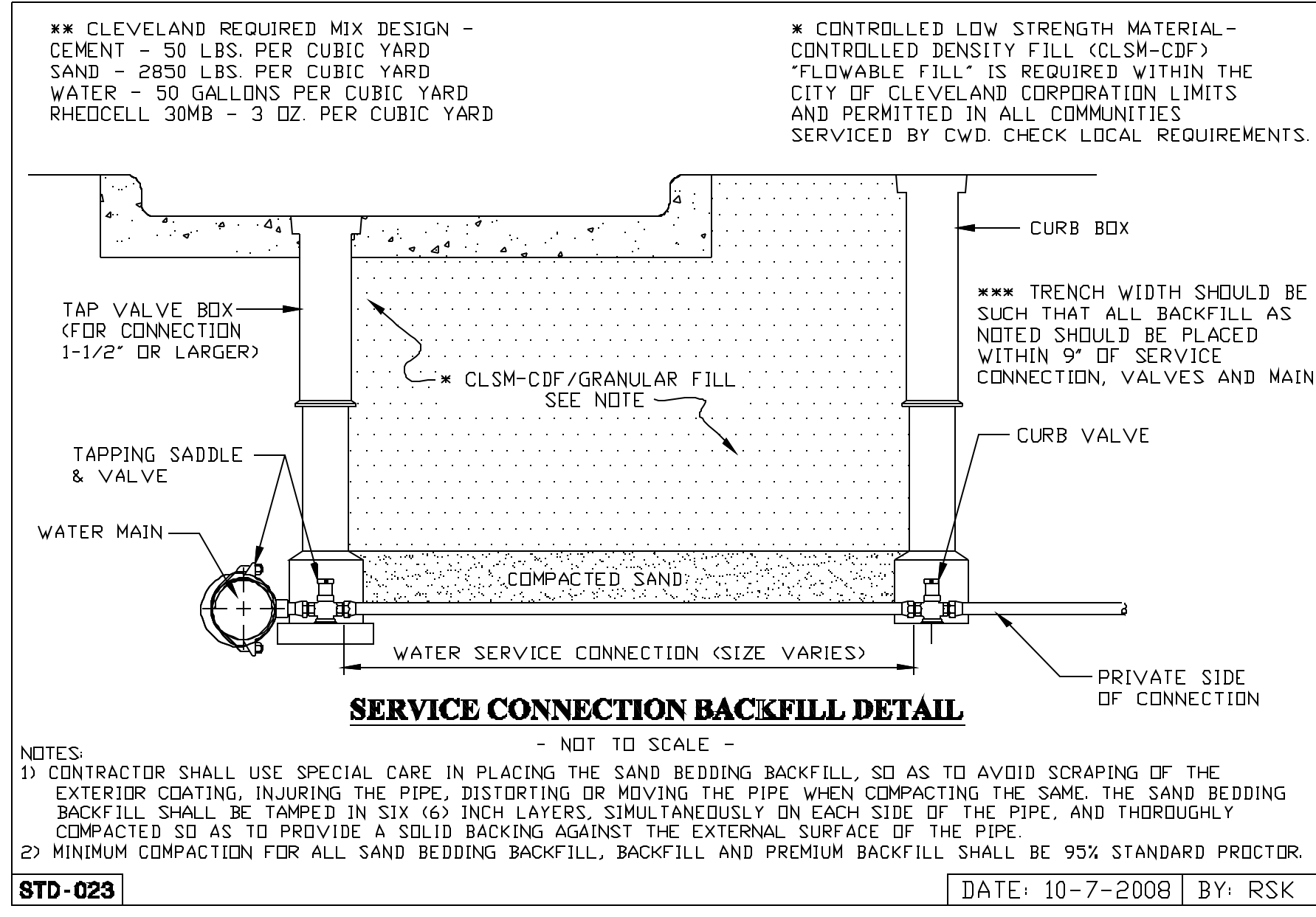
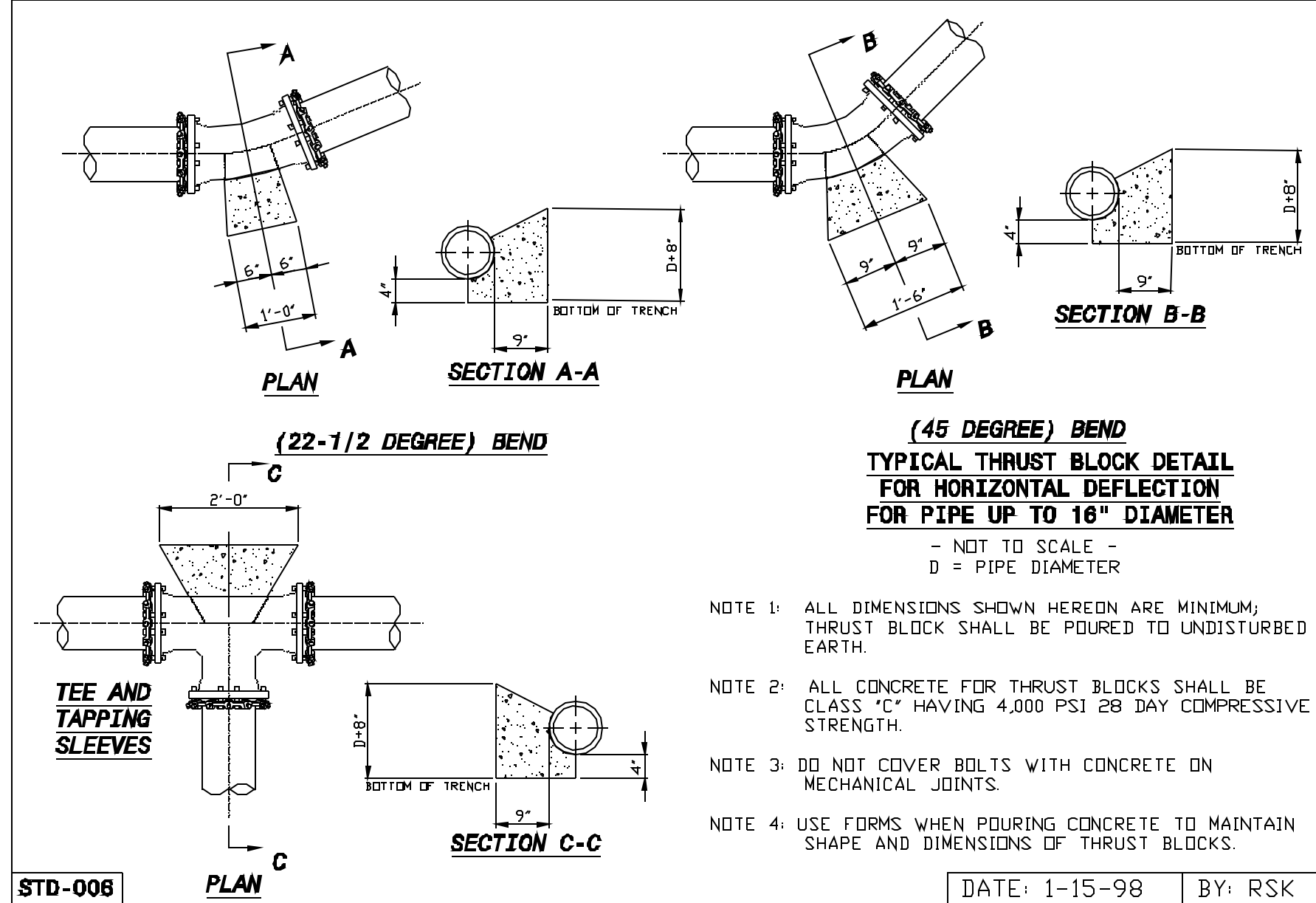
"D" - DENOTES NOMINAL PIPE DIAMETER OF DOMESTIC LINE.

* MAY SUBSTITUTE "F" x "F" x "F" DUCTILE IRON CLASS 350 CEMENT LINED RETAINED MECHANICAL JOINT TEE AND "F" x "D" DUCTILE IRON CLASS 350 CEMENT LINED RETAINED MECHANICAL JOINT PLAIN END x PLAIN END REDUCER FOR ITEM 3.

STANDARD DETAILS
DEPARTMENT OF PUBLIC UTILITIES
DIVISION OF WATER
CLEVELAND, OHIO

SUBJECT: SINGLE FEED/SEPARATE VAULTS
DOMESTIC - FIRELINE CONNECTION
4" - 12" DOMESTIC / 4" - 12" FIRELINE

DATE: 12-28-1999
SCALE: NONE
CHECKED BY: DATE: **STD-V04**



CLEVELAND DIVISION OF WATER NOTES FOR NEW WATER MAIN INSTALLATION
UPDATED 5-22-2012

CONTRACTOR IS TO ABIDE BY THE MOST CURRENT VERSION OF THE CLEVELAND, DIVISION OF WATER NOTES AND DETAILS. THE MOST UP-TO-DATE VERSION CAN BE FOUND AT WWW.CLEVELANDWATER.COM.

GENERAL:

- ALL WATER WORK REQUIRED, WHETHER SHOWN ON THE PLANS OR AS DIRECTED BY THE CLEVELAND DIVISION OF WATER, SHALL BE AT THE EXPENSE OF THE PROJECT.
- THE INFORMATION SHOWN ON THE CLEVELAND DIVISION OF WATER'S SUMMARY OF WORK/CHARGE LETTER AND STRIP MAPS ARE TAKEN FROM EXISTING AVAILABLE RECORDS, AND THEIR ACCURACY IS NOT GUARANTEED.
- CALL THE INSPECTION AND ENFORCEMENT UNIT AT 216-664-2342 TO SCHEDULE A PRECONSTRUCTION MEETING. THE OPERATION OF ANY VALVE OR ALTERATION OF ANY PART OF THE WATER SYSTEM BY CONTRACTORS OR OTHER EMPLOYEES IS PROHIBITED WITHOUT THE SUPERVISION OF THE CLEVELAND DIVISION OF WATER INSPECTOR.
- THE MUNICIPALITY SHALL REQUIRE THAT THE PROJECT'S PROFESSIONAL ENGINEER OBTAIN ACTUAL FIELD MEASUREMENTS OF THE MAIN DURING INSTALLATION AND SHALL FURNISH THE INSPECTOR WITH RECORD PRINTS IN A FORM ACCEPTABLE TO THE DIVISION OF WATER. THE CLEVELAND DIVISION OF WATER WILL REQUIRE THE DELIVERY AND ACCEPTANCE OF TWO COPIES OF RECORD (AS BUILT) PRINTS BEFORE THE PRESSURE TEST AND CHLORINATION OF THE MAIN.
- FOR THE PURPOSES OF CHLORINATION AND BACTERIOLOGICAL TESTING OF THE WATER MAINS THE CONTRACTOR SHALL PROVIDE AND INSTALL, AT EACH OF THE CHLORINATION PIT LOCATIONS SHOWN AND AT OTHER LOCATIONS DETERMINED BY THE DIVISION OF WATER, FLUSHING/SAMPLING TAPS OF SIZES TO BE DETERMINED BY THE DIVISION OF WATER. CHLORINATION PITS SHALL BE SIX (6) FOOT SQUARE MEETING OSHA STANDARDS.
- A TWO YEAR WARRANTY, COMMENCING FROM THE DATE OF ACCEPTANCE OF THE FINAL CHLORINATION OF THE WATER MAIN INSTALLATION, SHALL BE PROVIDED BY THE BUILDER/DEVELOPER AND/OR CONTRACTOR FOR ALL WATER MAINS AND SERVICE CONNECTION WORK PERFORMED BY THE CONTRACTOR, INCLUDING RETAPS, SHOULD ANY LEAKS OCCUR AND REPAIRS BE REQUIRED DUE TO DEFECTIVE MATERIAL OR POOR WORKMANSHIP.
- USE BACKFILL MATERIAL AS SPECIFIED AND COMPACT SUFFICIENTLY IN THOSE AREAS WHERE EXISTING MAINS AND WATER SERVICE CONNECTIONS ARE EXPOSED. (SEE DIVISION OF WATER STANDARD DETAIL STD-001).
- ALL MATERIALS, INCLUDING BUT NOT LIMITED TO WATER MAINS, FIRE HYDRANTS, VALVES, CONNECTION MATERIALS AND OTHER WATER APPURTENANCES, SHALL BE NEW AND UNUSED AND SHALL CONFORM TO THE MOST CURRENT DIVISION OF WATER SPECIFICATIONS. ALL MATERIAL SHALL BE INSTALLED IN ACCORDANCE WITH DIVISION OF WATER'S STANDARDS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO EXISTING WATER MAINS AND APPURTENANCES THEREOF WHEN CONNECTING THE NEW WATER MAIN FOR THE HYDROSTATIC TEST. ALL REPAIRS TO DAMAGED EXISTING FACILITIES SHALL BE MADE BY THE CONTRACTOR, AT THE CONTRACTOR'S EXPENSE, TO THE SATISFACTION OF THE DIVISION OF WATER. (REFER TO THE ALTERNATE TEST DETAIL STD-002 AS NEEDED).
- ALL HYDROSTATIC PRESSURE TESTING SHALL BE DONE BY THE CONTRACTOR IN THE PRESENCE OF THE DIVISION OF WATER'S INSPECTOR. THE HYDROSTATIC TEST PRESSURE SHALL BE 75 PSI ABOVE THE STATIC PRESSURE OF THE MAIN AT THE SITE, BUT IN NO CASE LESS THAN 150 PSI. THE PRESSURE TEST SHALL BE FOR A DURATION OF TWO (2) HOURS WITH THE PRESSURE BEING MAINTAINED WITHIN 5 PSI OF THE REQUIRED TEST PRESSURE. SHOULD THE PRESSURE TEST FAIL THE CONTRACTOR SHALL FIND AND CORRECT THE DEFICIENCY(IES) TO THE SATISFACTION OF THE DIVISION OF WATER AND REPEAT THE TWO (2) HOUR PRESSURE TEST.
- ALL BURIED WATER MAIN, FITTINGS, VALVES, FIRE HYDRANT BRANCH PIPING AND APPURTENANCES SHALL BE ENCASED WITH POLYETHYLENE WRAPPING IN ACCORDANCE WITH THE MOST CURRENT REVISION OF ANS/AWWA C-105/A21.5 INSTALLATION METHOD A. ALTERNATE INSTALLATION METHOD A FOR WET TRENCH CONDITIONS SHALL BE USED WHEN WATER MAIN ARE INSTALLED IN UNPAVED LOCATIONS SUCH AS TREE LAWNS AND EASEMENTS TRAVERSING PRIVATE PROPERTY.

WATER MAINS:

- ALL PIPE, UNLESS OTHERWISE CALLED FOR, SHALL BE DUCTILE IRON, MINIMUM CLASS 52, CEMENT LINED HAVING PUSH-ON JOINTS WITH RADIALLY COMPRESSED RUBBER RING GASKET AND INSTALLED PER THE MOST CURRENT REVISION OF AWWA C600.
 - ALL FITTINGS, UNLESS OTHERWISE CALLED FOR, SHALL BE APPROVED DUCTILE IRON, CLASS 52, CEMENT LINED OR FUSION BONDED EPOXY COATED. ALL FITTINGS AND PIPE CONNECTED TO FITTINGS SHALL BE RESTRAINED USING A "RETAINED" MECHANICAL JOINT CONFORMING TO THE MATERIAL AND PERFORMANCE REQUIREMENTS OF ANS/AWWA C-110/A21.10 AND ANS/AWWA C-111/A21.11, OR "COMPACT" FITTINGS IN ACCORDANCE WITH ANS/AWWA C-153/A21.53. EXCEPT FOR ANCHOR TEES, REDUCERS OR OTHER SPECIAL CIRCUMSTANCES WHEN DIRECTED BY CLEVELAND DIVISION OF WATER, ALL FITTINGS ARE TO HAVE BELL ENDS.
 - ALL BOLTS AND NUTS ON ALL "RETAINED" MECHANICAL JOINTS SHALL HAVE FIELD APPLIED ONE (1) COAT OF BITUMASTIC PAINTING.
 - WHERE SHOWN ON THE PLANS, OR WHEN OTHERWISE CALLED FOR, PIPE AND FITTINGS SHALL HAVE AN APPROVED "TYPE I" OR "TYPE II" BOLTLESS RESTRAINED PUSH-ON JOINTS TO THE LIMITS SHOWN ON THE DRAWINGS.
 - AT THE END OF EACH WORKDAY, THE CONTRACTOR SHALL PLUG ALL OPEN PIPE ENDS WITH WATER TIGHT PLUGS AS PER THE "PREVENTATIVE AND CORRECTIVE MEASURES DURING CONSTRUCTION" SECTION OF THE MOST CURRENT REVISION OF AWWA C-651 AS TO PREVENT THE INFILTRATION OR INTRUSION OF ANY FOREIGN OBJECTS OR MATERIAL. DATE STAMPED DIGITAL PHOTOS SHALL BE PROVIDED FOR EACH WORKDAY DEMONSTRATING THAT PROPER AWWA C-651 METHODS WERE USED TO PLUG ALL OPEN WATER MAIN ENDS. EACH PHOTO SHALL CLEARLY IDENTIFY THE STATION AT WHICH THE PIPE IS PLUGGED. THE STATIONING SHALL BE SHOWN BY THE USE OF A STATION MARKER PLACED AT THE PLUGGED PIPE ENDS.
- PHOTOS SHALL BE SUBMITTED ON A DAILY BASIS UNLESS OTHERWISE DEFINED BY THE C.W.D. INSPECTOR OR ENGINEER. ALL PHOTOS OF THE PROJECT SHALL BE SUBMITTED BY THE CONTRACTOR AS PART OF THE AS-BUILT SUBMITTAL. PHOTOS ARE TO INCLUDE STATIONING MARKERS. AS-BUILTS SHALL BE DEEMED INCOMPLETE WITHOUT SAID COLLECTION OF DIGITAL PHOTOS.

HYDRANTS:

- IN ALL HYDRANT INSTALLATIONS THE CONTRACTOR SHALL FACE ALL HYDRANT'S 4" (STEAMER) NOZZLE TOWARD THE PAVEMENT PRIOR TO TESTING AND CHLORINATION OF WATER MAINS. CONTRACTOR SHALL CONSULT WITH THE LOCAL MUNICIPALITY'S ENGINEERING OR SERVICE DEPARTMENT TO OBTAIN HYDRANT MODEL AND NOZZLE THREAD REQUIREMENTS IF NOT INDICATED ON THE APPROVED PLANS.
- ALL VALVES SHALL BE AN APPROVED MODEL RESILIENT SEATED GATE VALVES AS PER THE MOST CURRENT VERSION OF AWWA C509 OR C515.

CONNECTIONS:

- WATER CONNECTIONS SHOWN ON THESE DRAWINGS ARE FOR REFERENCE ONLY AND ARE NOT PART OF THE WATER MAIN APPROVAL. ADDITIONAL PERMITS FOR SERVICE CONNECTIONS MUST BE OBTAINED FROM THE DIVISION OF WATER PRIOR TO INSTALLATION OF ANY PORTION OF THE SERVICE CONNECTION(S). IT IS THE CONTRACTOR'S RESPONSIBILITY TO ARRANGE FOR PERMITS FOR ALL SIZE WATER SERVICE CONNECTIONS BEFORE PERFORMING ANY WORK. THE AMOUNT OF THE CHARGES CAN BE OBTAINED FROM THE DIVISION OF WATER PERMITS AND SALES SECTION AT 216-664-2444 EXT. 5203.
- ONE INCH SERVICE CONNECTIONS SHALL BE PERMITTED TO SERVICE HOMES BASED ON THE FOLLOWING CRITERIA:
 - PEAK FLOW DEMANDS DO NOT EXCEED 25 GPM FOR AN INDIVIDUAL HOME/UNIT, INCLUSIVE OF ALL USAGE (FIRE, DOMESTIC AND/OR IRRIGATION) AND
 - LENGTH OF ONE INCH CONNECTION DOES NOT EXCEED 75 FEET AS MEASURED FROM THE MAIN TO THE POINT OF ENTRY INTO THE PROPOSED HOME/UNIT.
- ANY SERVICE REQUESTS DIFFERING FROM THE STATED CRITERIA SHALL REQUIRE THE SUBMITTAL OF A COMPLETE WATER SERVICE APPLICATION. PEAK DEMANDS ARE TO BE ASSESSED ON APPLICATION AND SETBACKS ARE TO BE SHOWN ON AN ACCOMPANYING SITE PLAN. SITE PLANS SHALL SHOW WATER METER VAULTS IN THE RIGHT OF WAY OR IN AN EASEMENT CONTIGUOUS TO THE RIGHT OF WAY FOR ANY HOMES/APARTS WITH SETBACKS GREATER THAN 150 FEET. EASEMENTS ARE TO BE PROVIDED WITH THE SERVICE CONNECTION APPLICATION SUBMITTAL.
- ALL WATER MAIN CURB VALVE BOXES & METER VAULTS WILL BE INSTALLED IN GRASS AREAS WHEN POSSIBLE.

EMERGENCIES:

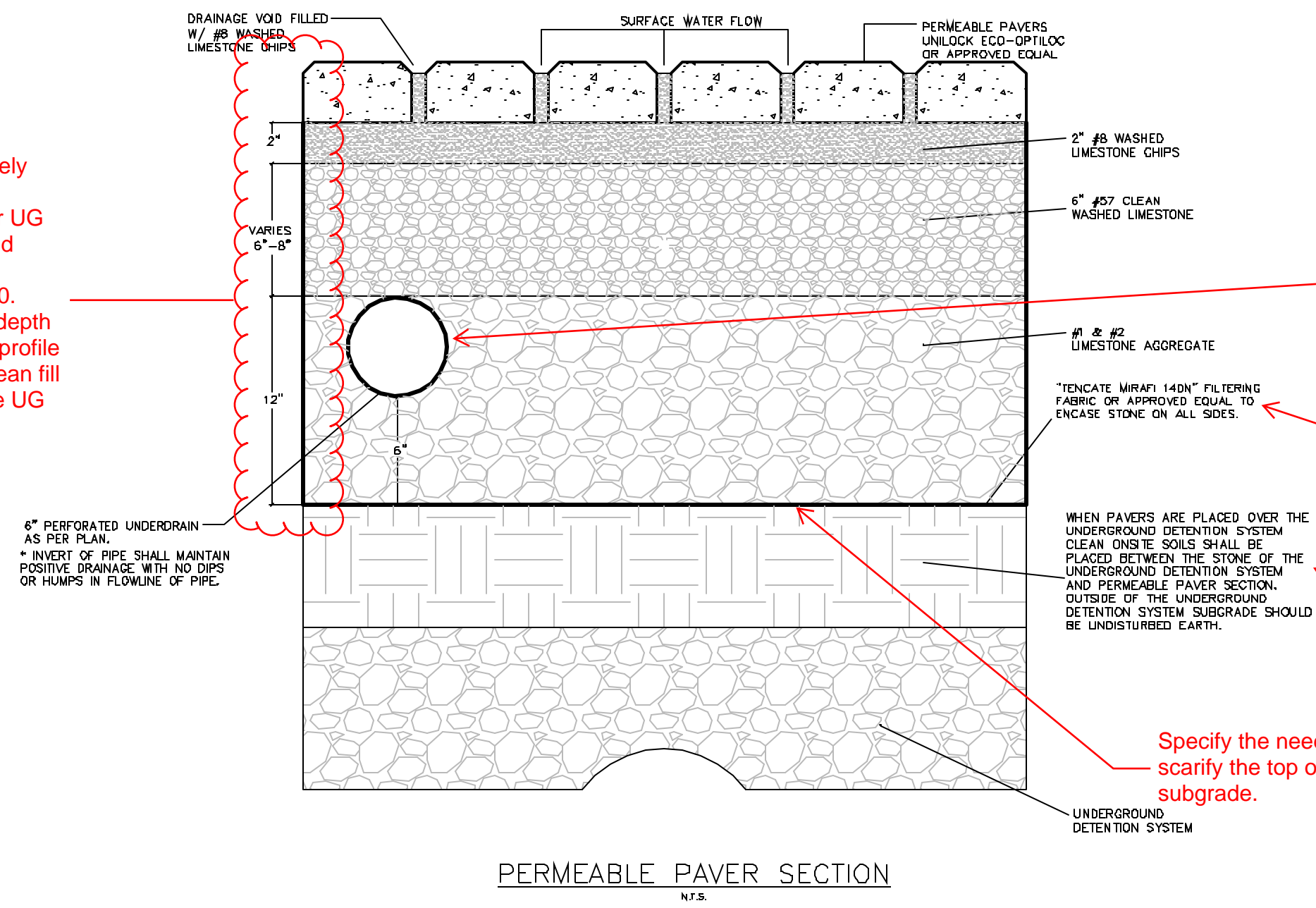
- IF A WATER MAIN OR SERVICE CONNECTION BREAK OCCURS DURING CONSTRUCTION AND EMERGENCY ASSISTANCE IS REQUIRED, PLEASE NOTIFY THE DIVISION OF WATER AT 216-664-3566.

MARK	DATE	PURPOSE	MARK	DATE	PURPOSE
	08/28/2020	80% SET			
	10/15/2020	PRICING UPDATE			
	11/02/2020	PERMIT			
	2/18/2021	NECR-SD			



PROJECT NO: 2019.25
TITLE: NOTES & DETAILS

Profile is approximately 2-ft in depth. Top elevation of stone for UG system is 799.40, and finished grade is approximately 801.00. There is insufficient depth available for this full profile and the additional clean fill to be placed over the UG system.



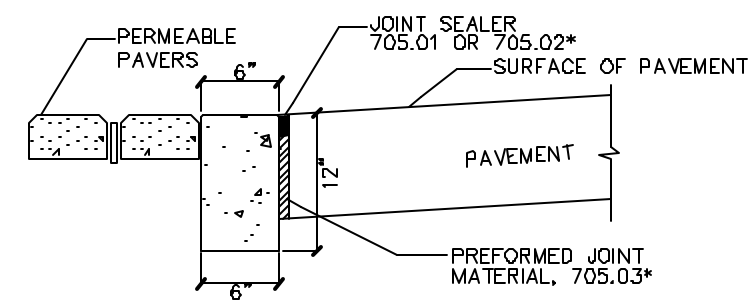
It is recommend that the underdrain be surrounded by #57 limestone rather than #1 and #2 stone.

Can filter fabric be eliminated from bottom layer (only have on sides)?

Using #1 & #2 stone in place of clean fill would reduce the risk of sediment transport into the underground system. Please consider.

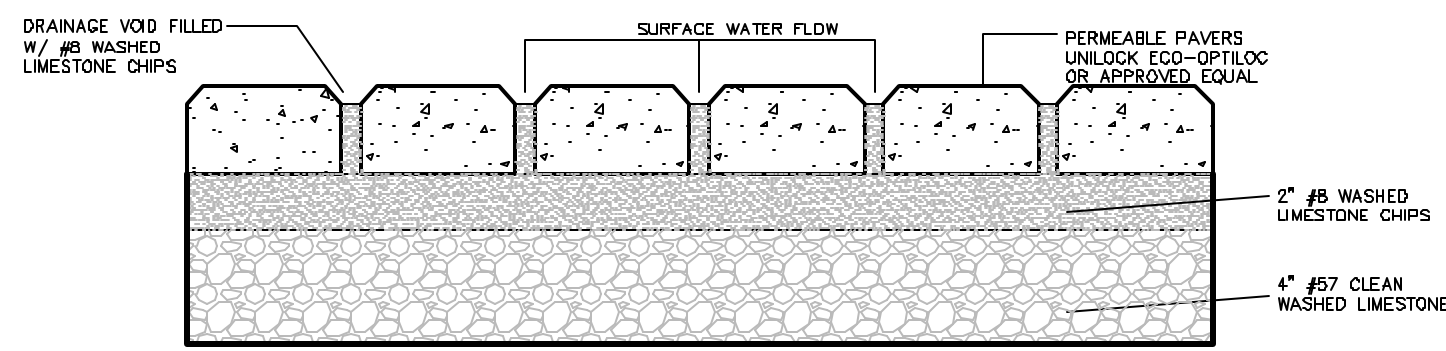
Specify the need to scarify the top of the subgrade.

PERMEABLE PAVER SECTION N.T.S.

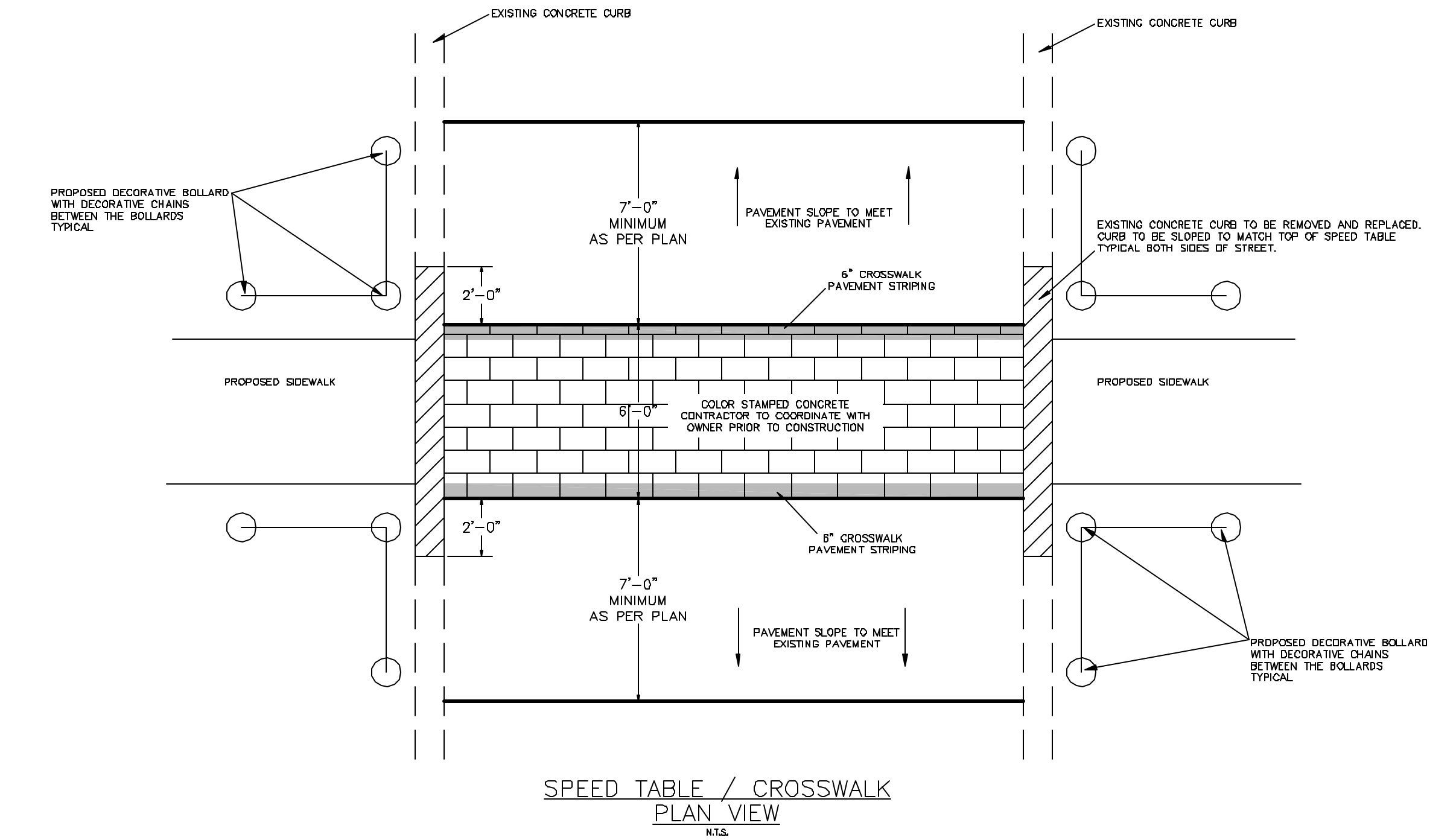


TOP OF THE PAVERS SHALL BE THE SAME ELEVATION AS THE TOP OF THE CONCRETE PAVER EDGE.

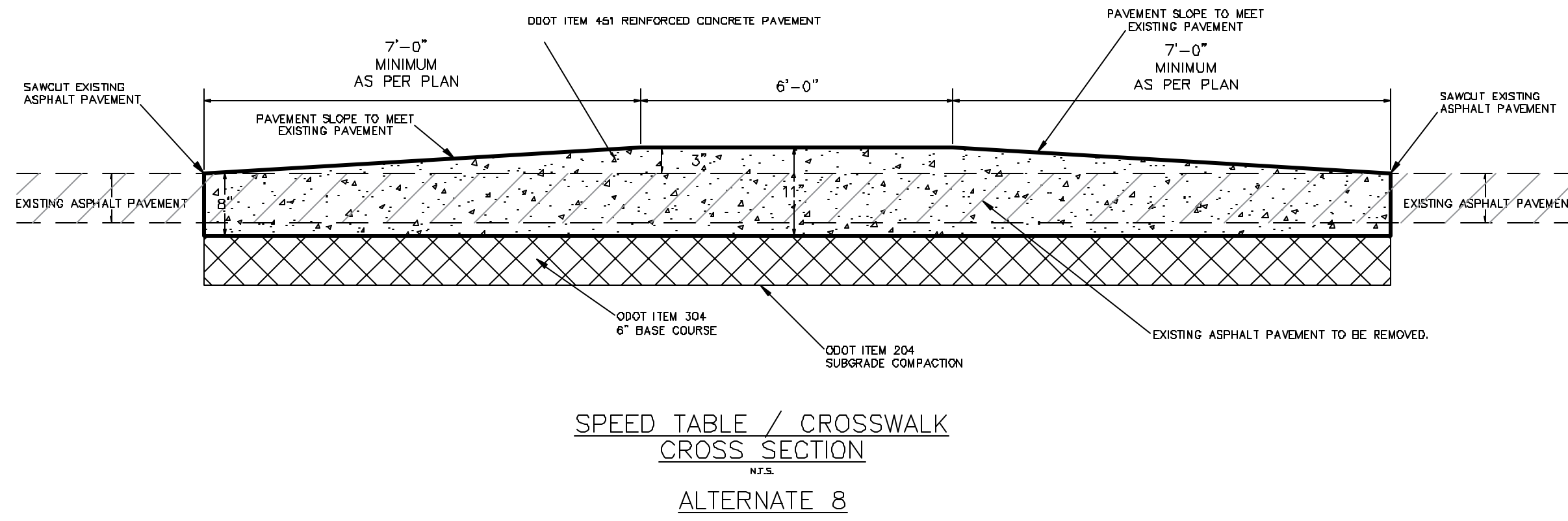
CONCRETE PAVER EDGE N.T.S.



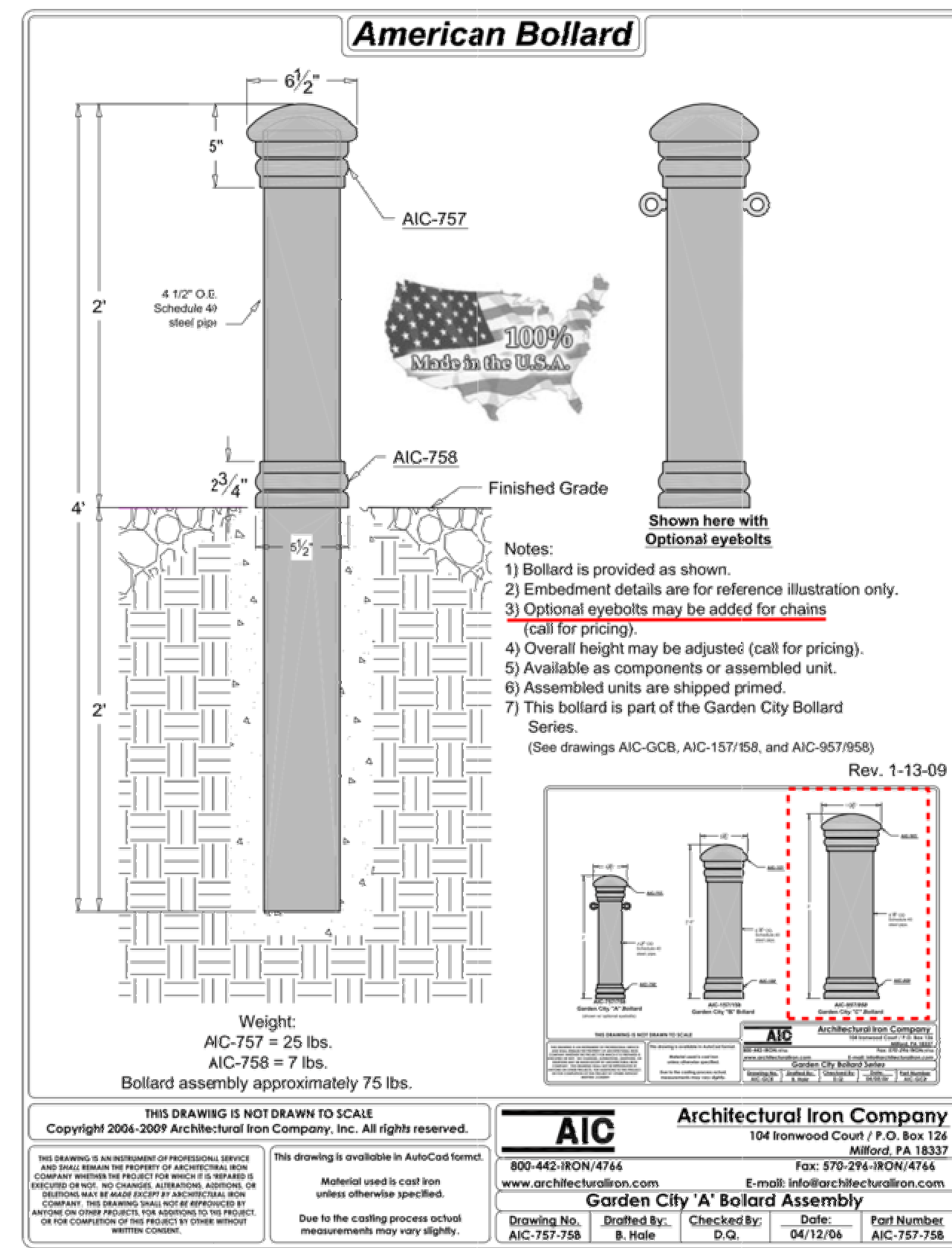
PERMEABLE PAVER WALK SECTION N.T.S.



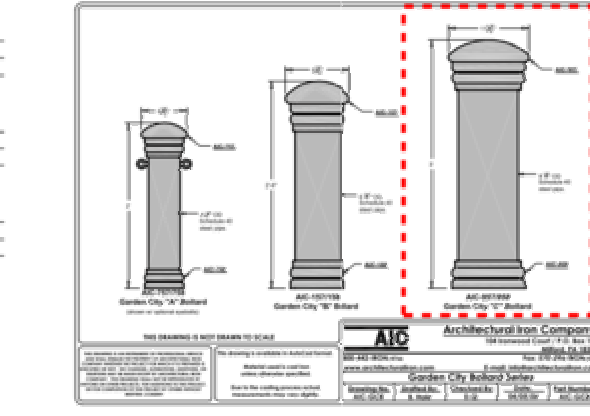
SPEED TABLE / CROSSWALK PLAN VIEW N.T.S.



SPEED TABLE / CROSSWALK CROSS SECTION ALTERNATE 8 N.T.S.



- Notes:
- 1) Bollard is provided as shown.
 - 2) Embedment details are for reference illustration only.
 - 3) Optional eyebolts may be added for chains (call for pricing).
 - 4) Overall height may be adjusted (call for pricing).
 - 5) Available as components or assembled unit.
 - 6) Assembled units are shipped primed.
 - 7) This bollard is part of the Garden City Bollard Series. (See drawings AIC-GCB, AIC-157/158, and AIC-957/958)



THIS DRAWING IS NOT DRAWN TO SCALE
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Garden City 'A' Bollard Assembly
Drawing No. AIC-757-758 Drafted By: B. Rote Checked By: D.G. Date: 04/12/06 Part Number: AIC-757-758



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2020-117

MARK	DATE	PURPOSE
	08/28/2020	80% SET
	10/15/2020	PRICING UPDATE
	11/02/2020	PERMIT
	2/18/2021	NECORS



TOTAL POST CONSTRUCTION STORM WATER QUALITY FLOW - NORTH

WQF = C * i * A
WHERE
C = RATIONAL METHOD COEFFICIENT OF RUNOFF
i = INTENSITY (IN/HR)
A = AREA DRAINING TO THE BMP (ACRES)

Table with 4 columns: Surface, C, Area, CxArea. Rows for Bldg. & PvmL, Open (Fair), and Total.

Weighted C = 0.4416 / 0.52 = 0.85
i = 1.85 IN/HR
A = 0.52 ACRES

WQF = 0.85 * 1.85 * 0.52
WQF = 0.82 CFS

SIZING OF UNDERGROUND DETENTION SYSTEM

TREATMENT FLOW RATE: 0.5 GPM/SF
SURFACE AREA OF MC-3500 CHAMBER: 45.99 SF
SURFACE AREA OF MC-3500 END CAP: 11.14 SF
NUMBER OF CHAMBERS IN ISOLATOR ROWS: 12
NUMBER OF END CAPS IN ISOLATOR ROWS: 4
TOTAL SURFACE AREA OF SYSTEM: (45.99x12) + (11.14x4) = 596.44 SF
TREATMENT FLOW RATE OF SYSTEM: 596.44 SF x 1.0 GPM/SF x 0.002228 CFS/GPM = 1.33 CFS

TOTAL POST CONSTRUCTION STORM WATER QUALITY VOLUME - NORTH

WQv = Rv * P * (A/12)
WHERE
Rv = 0.05 + 0.9i
i = fraction of post construction impervious surface
P = 0.90 inches
A = 0.52 ACRES

i = Impervious area / Total area = 0.44/0.52 = 0.85

Rv = 0.05 + (0.9 * (0.85))
Rv = 0.81

SITE WQv = 0.81 * 0.90 * (0.52/12)
SITE WQV = 0.032 ac*ft = 1,377 cf

REQUIRED 24 HR DRAW DOWN
1.377 CF
Qavg = (24hr) * (60min/hr) * (60sec/min) = 0.016 cfs

ORIFICE SIZED FOR WDV
A = Qavg / C * (2gh)^0.5
.016 / 0.80 * (2 * 32.2 * 0.93)^0.5 = .0034 ft^2
D = (4A / pi)^0.5
(4 * 0.0034 / 3.14)^0.5 = .066' ~ 0.79"
USE 1.0" (MINIMUM SIZE)

TOTAL POST CONSTRUCTION STORM WATER QUALITY FLOW - SOUTH

WQF = C * i * A
WHERE
C = RATIONAL METHOD COEFFICIENT OF RUNOFF
i = INTENSITY (IN/HR)
A = AREA DRAINING TO THE BMP (ACRES)

Table with 4 columns: Surface, C, Area, CxArea. Rows for Bldg. & PvmL, Open (Fair), and Total.

Weighted C = 0.6267 / 0.70 = 0.90
i = 1.85 IN/HR
A = 0.70 ACRES

WQF = 0.90 * 1.85 * 0.70
WQF = 1.16 CFS

SIZING OF UNDERGROUND DETENTION SYSTEM

TREATMENT FLOW RATE: 0.5 GPM/SF
SURFACE AREA OF MC-3500 CHAMBER: 45.99 SF
SURFACE AREA OF MC-3500 END CAP: 11.14 SF
NUMBER OF CHAMBERS IN ISOLATOR ROWS: 14
NUMBER OF END CAPS IN ISOLATOR ROWS: 4
TOTAL SURFACE AREA OF SYSTEM: (45.99x14) + (11.14x4) = 688.42 SF
TREATMENT FLOW RATE OF SYSTEM: 688.42 SF x 1.0 GPM/SF x 0.002228 CFS/GPM = 1.53 CFS

TOTAL POST CONSTRUCTION STORM WATER QUALITY VOLUME - SOUTH (REDEVELOPMENT)

WQv = P * A * [(Rv1*0.2) + (Rv2-Rv1)] / 12
WHERE
Rv1 = 0.05 + 0.9i (Pre Development)
Rv2 = 0.05 + 0.9i (Post Development)
i = fraction of post construction impervious surface
P = 0.90 inches
A = 2.57 ACRES

PRE DEVELOPMENT
i = Impervious area / Total area = 1.39/2.57 = 0.54
Rv1 = 0.05 + (0.9 * 0.54) = 0.54

POST DEVELOPMENT
i = Impervious area / Total area = 1.52/2.57 = 0.59
Rv2 = 0.05 + (0.9 * 0.59) = 0.58

WQv = P * A * [(Rv1*0.2) + (Rv2-Rv1)] / 12
WQv = 0.9 * 2.57 * [(0.54*0.2) + (0.58-0.54)] / 12
WQv = 0.028 ACRE*FT = 1,210 CF

TOTAL POST CONSTRUCTION STORM WATER QUALITY VOLUME - SOUTH

WQv = Rv * P * (A/12)
WHERE
Rv = 0.05 + 0.9i
i = fraction of post construction impervious surface
P = 0.90 inches
A = 0.70 ACRES

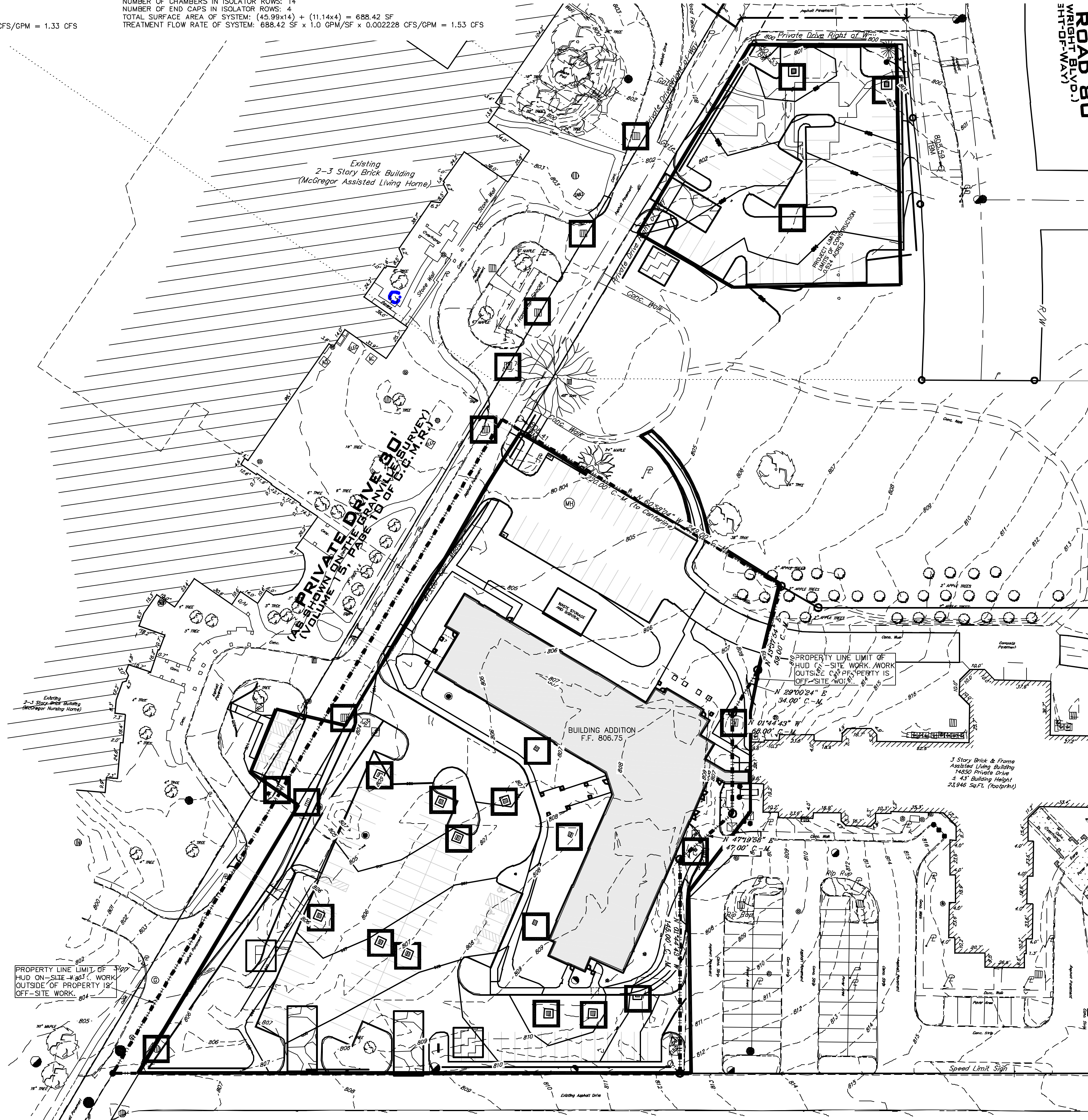
i = Impervious area / Total area = 0.69/0.70 = 0.99

Rv = 0.05 + (0.9 * (0.99))
Rv = 0.94

SITE WQv = 0.94 * 0.90 * (0.70/12)
SITE WQV = 0.049 ac*ft = 2,143 cf

REQUIRED 24 HR DRAW DOWN
2.143 CF
Qavg = (24hr) * (60min/hr) * (60sec/min) = 0.025 cfs

ORIFICE SIZED FOR WDV
A = Qavg / C * (2gh)^0.5
.025 / 0.80 * (2 * 32.2 * 0.93)^0.5 = .0047 ft^2
D = (4A / pi)^0.5
(4 * 0.0047 / 3.14)^0.5 = .077' ~ 0.93"
USE 1.0" (MINIMUM SIZE)



GENERAL SWPPP NOTES:

TOTAL LOT AREA = 9.46 ACRES
DISTURBED AREA = 3.04 ACRES

LOCATION OF WASTE STORAGE AND DISPOSAL SHOWN ON THE PLANS SHALL BE VERIFIED BY CONTRACTOR. LOCATION MAY BE CHANGED AND THE SWPPP AMENDED.

LOCATION OF VEHICLE FUELING SHOWN ON THE PLANS SHALL BE VERIFIED BY THE CONTRACTOR. LOCATION MAY BE CHANGED AND THE SWPPP AMENDED. CONTRACTOR TO COORDINATE WITH THE CITY OF EAST CLEVELAND. VEHICLE FUELING AREA SHALL CONFORM WITH ALL OSHA, EPA AND FIRE DEPARTMENT REQUIREMENTS.

A COPY OF THE SWPPP AND ALL ADDENDUM TO THE SWPPP SHALL BE KEPT ON SITE AT ALL TIMES.

ALL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE INSTALLED AS PER PLAN. ALL PRACTICES MUST BE MAINTAINED AND FUNCTIONAL DURING CONSTRUCTION ACTIVITIES.

EROSION CONTROL BLANKETS WITH MATTING SHALL BE USED ON SLOPES GREATER THAN 6%.

EXCESS SEDIMENT SHALL BE REMOVED FROM THE TEMPORARY SEDIMENT BASIN WHEN THE SEDIMENT OCCUPIES 40% OF THE SEDIMENT STORAGE ZONE.

ONCE THE SITE HAS BEEN STABILIZED AND PROPER AUTHORIZATION HAS BEEN OBTAINED, CONSTRUCTION BMPs MAY BE REMOVED.

SOILS: THE NATIONAL RESOURCE CONSERVATION SERVICE WEB SOIL SURVEY OF CUYAHOGA COUNTY IDENTIFIES THE SOILS ON SITE AS MTIWANGA-URBAN LAND COMPLEX (Mx8).

EXISTING STORM WATER: STORM WATER FROM THE EXISTING SITE IS COLLECTED VIA A SERIES OF CATCH BASINS AND SENT TO THE MUNICIPAL SEWERS IN PRIVATE DRIVE.

CONSTRUCTION ACTIVITY: CONSTRUCTION ACTIVITY WILL INCLUDE THE CLEARING AND GRUBBING OF THE SITE AND THE CONSTRUCTION OF AN ADDITION TO THE ASSISTED LIVING FACILITY AND PARKING LOT. CONSTRUCTION WILL ALSO INCLUDE THE INSTALLATION OF NEW UTILITY CONNECTIONS AND STORM SEWER SYSTEM THAT INCLUDES TWO UNDERGROUND CHAMBER SYSTEMS FOR STORM WATER DETENTION AND WATER QUALITY TREATMENT. CONSTRUCTION WILL BE SPLIT BETWEEN TWO PHASES, AS SHOWN IN THE PREVIOUS PLAN SHEETS. A PORTION OF THE PARKING AREAS WILL BE INSTALLED AS PART OF PHASE 1. THE BUILDING ADDITION AND THE REMAINDER OF THE PROPOSED PARKING WILL BE INSTALLED AS PART OF PHASE 2.

PRE CONSTRUCTION WEIGHTED C VALUE
Surface C Area CxArea
PvmL & Bldg. 0.90 1.47 1.3230
Open (Fair) 0.37 1.13 0.8939
Total 3.09 2.4081

Weighted C = 2.4081 / 3.04 = 0.78
PRE CONSTRUCTION % IMPERVIOUSNESS
1.47 / 3.04 = 48.35%

SOILS: THE NATIONAL RESOURCE CONSERVATION SERVICE WEB SOIL SURVEY OF CUYAHOGA COUNTY IDENTIFIES THE SOILS ON SITE AS MTIWANGA-URBAN LAND COMPLEX (Mx8).

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POST CONSTRUCTION WEIGHTED C VALUE
Surface C Area CxArea
PvmL & Bldg. 0.90 1.96 1.7640
Open (Fair) 0.37 1.13 0.6441
Total 3.09 2.4081

Weighted C = 2.4081 / 3.09 = 0.78
POST CONSTRUCTION % IMPERVIOUSNESS
1.96 / 3.09 = 63.43%

FUTURE STORM WATER: STORM WATER FROM THE DEVELOPED SITE WILL BE COLLECTED AND DETAINED IN TWO LARGE UNDERGROUND CHAMBER SYSTEMS TO DETAIN AND TREAT THE WATER QUALITY VOLUME. THE STORM WATER WILL BE DISCHARGED AT A REDUCED RATE TO THE STORM SEWER IN PRIVATE DRIVE WHICH DISCHARGES TO LEE ROAD.

NOTICE OF INTENT (NOI) & NOTICE OF TERMINATION (NOT): PRIOR TO THE START OF CONSTRUCTION ACTIVITIES, A NOTICE OF INTENT (NOI) SHALL BE FILED WITH THE OHIO EPA. CONSTRUCTION ACTIVITIES WILL COMPLY WITH CITY OF EAST CLEVELAND CODIFIED ORDINANCE AND DEPA CONSTRUCTION GENERAL PERMIT #0HCD00005. ONCE CONSTRUCTION IS COMPLETE AND THE SITE HAS BEEN STABILIZED THE DEVELOPER SHALL SUBMIT A NOTICE OF TERMINATION (NOT) WITH THE OHIO EPA.

CONSTRUCTION:
START: SPRING 2021 - COMPLETION: FALL 2021

SWPPP CHANGES & AMENDMENTS: ALL CHANGES AND AMENDMENTS TO THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) SHALL BE APPROVED BY DAVID A. PIETRANTONE P.E., THE RIVERSTONE COMPANY.

THE RIVERSTONE COMPANY
3800 LAKESIDE AVENUE, SUITE 100
CLEVELAND, OHIO 44114
PHONE: (216) 491-2000

PREPARED FOR & OWNER:
McGREGOR
14500 PRIVATE DRIVE
CLEVELAND, OHIO 44114
PHONE: (216) 851-8200

DEVELOPER:
CLEVELAND HOUSING NETWORK INC.
2999 PAYNE AVENUE, SUITE 300
CLEVELAND, OHIO 44112
ATTN: CHRIS ZELINSKI
PHONE: (216) 672-3533

CONTRACTOR:

SWPPP LEGEND
PC PERIMETER CONTROL: SILT FENCE OR COMPOST FILLED FILTER SOCK
CONSTRUCTION LIMITS

CONSTRUCTION ENTRANCE
CONCRETE WASHOUT
VEHICLE FUELING
INLET PROTECTION

GRAPHIC SCALE
40 0 20 40 60
(IN FEET)
1 inch = 40 ft.

RIVERSTONE
LAND SURVEYING - ENGINEERING - DESIGN
3800 LAKESIDE AVENUE - SUITE 100
CLEVELAND - OHIO - 44114
PHONE: (216) 491-2000 FAX: (216) 491-9640
WWW.RIVERSTONESURVEY.COM

2020-117

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DIFRANCESCO + SIEBOLD
ARCHITECTURE + INTERIOR DESIGN + PLANNING
1999 West 25th Street, Suite 300
Cleveland, Ohio 44113
P 216.696.5460 F 216.696.1151
www.hds.com

Table with 3 columns: MARK, DATE, PURPOSE. Rows for 08/28/2020 8% SET, 10/15/2020 PRICING UPDATE, 11/02/2020 PERMIT, 2/18/2021 REVISION.

McGregor

SENIOR INDEPENDENT LIVING
VOLUME 1: NEW SENIOR APARTMENT BUILDING
14860 PRIVATE DRIVE, EAST CLEVELAND, OHIO 44112

DAVID A. PIETRANTONE
REGISTERED PROFESSIONAL ENGINEER
E-61756

PROJECT NO.: 2019.25

TITLE: SWPPP

DRAWING NUMBER: C7.01

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SILT FENCE

DESCRIPTION:
SILT FENCE IS A SEDIMENT-TRAPPING PRACTICE UTILIZING A GEOTEXTILE FENCE, TOPOGRAPHY AND VEGETATION TO CAUSE SEDIMENT DEPOSITION. SILT FENCE REDUCES RUNOFFS ABILITY TO TRANSPORT SEDIMENT BY PONDING RUNOFF AND DISSIPATING SMALL RILLS OF CONCENTRATED FLOW INTO UNIFORM SHEET FLOW.

CONDITIONS WHERE PRACTICE APPLIES:

SILT FENCE IS USED WHERE RUNOFF OCCURS AS SHEET FLOW OR WHERE FLOW THROUGH SMALL RILLS CAN BE CONVERTED TO SHEET FLOW. SILT FENCE CANNOT EFFECTIVELY TREAT FLOWS IN GULLIES, DITCHES OR CHANNELS. FOR MORE SEVERE CONDITIONS SEE SPECIFICATIONS FOR TEMPORARY DIVERSIONS, SEDIMENT TRAPS AND SEDIMENT BASINS.

PLANNING CONSIDERATIONS:

SILT FENCE VS TEMPORARY DIVERSIONS AND SETTLING PONDS - TO TREAT SHEET FLOW RUNOFF, SILT FENCE IS USED OR DIVERSIONS ARE CONSTRUCTED TO DIRECT FLOW TO A SEDIMENT POND. SILT FENCE IS MOST APPLICABLE FOR RELATIVELY SMALL AREAS WITH FLAT TOPOGRAPHY. SILT FENCE ALSO REQUIRES LESS SPACE AND CAUSES LESS DISTURBANCE. A SYSTEM OF DIVERSIONS AND SETTLING PONDS, ON THE OTHER HAND, HAS GREATER INTEGRITY. COMPARED TO SILT FENCE, THEY CAN HANDLE MUCH GREATER FLOWS AND ARE MORE DURABLE AND EASIER TO CONSTRUCT CORRECTLY. AS A RESULT, EARTH DIVERSIONS AND SETTLING PONDS GENERALLY ARE RECOMMENDED OVER SILT FENCE.

DESIGN CRITERIA:

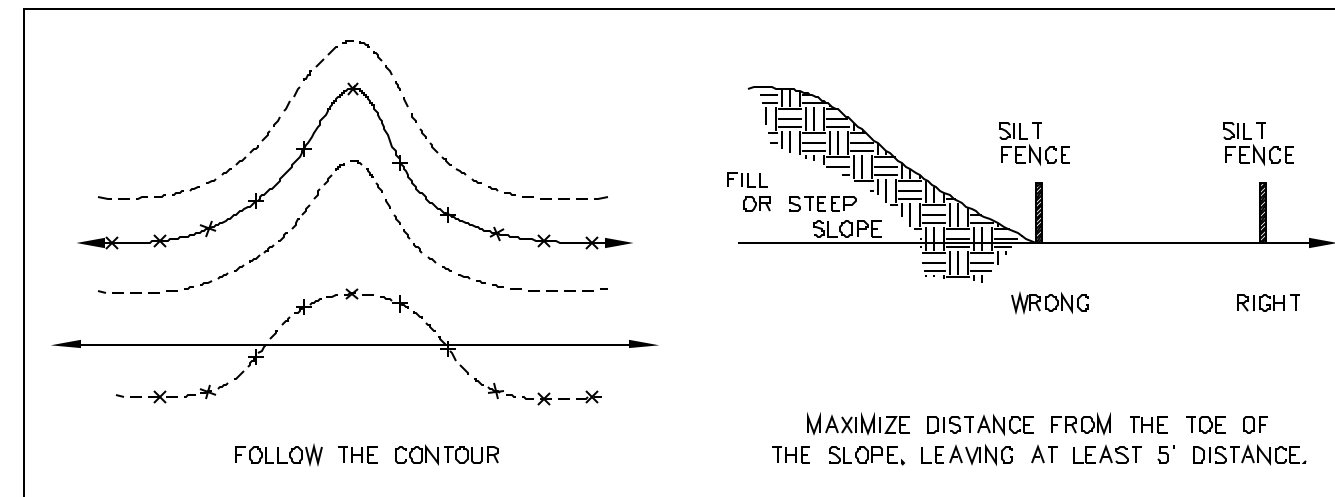
SILT FENCE AS A SEDIMENT CONTROL PRACTICE CONSISTS NOT ONLY OF THE FENCE ITSELF BUT, JUST AS IMPORTANTLY, IT ENTAILS TOPOGRAPHY. THIS IS A CRITICAL CONSIDERATION BECAUSE THE SEDIMENT REMOVAL PROCESS RELIES ON DEPOSITION NOT FILTERING, AS OFTEN ASSUMED. SILT FENCE WORKS BY DISPERSING FLOW, PONDING RUNOFF AND RELEASING DIFFUSE FLOW. HOWEVER, IF SILT FENCE IS USED WITHOUT REGARD TO A SITE'S TOPOGRAPHY, IT WILL TYPICALLY CONCENTRATE RUNOFF, INCREASING ITS ABILITY TO TRANSPORT SEDIMENT RATHER THAN CAUSING DEPOSITION.

LEVEL CONTOUR - FOR SILT FENCE TO ENHANCE DEPOSITION, IT MUST BE PLACED ON THE LEVEL CONTOUR OF THE LAND SO THAT FLOWS ARE DISSIPATED INTO UNIFORM SHEET FLOW, WHICH HAS LITTLE ENERGY FOR TRANSPORTING SEDIMENT. SILT FENCE SHOULD NEVER CONCENTRATE RUNOFF, WHICH WILL RESULT IF IT IS PLACED UP AND DOWN SLOPES RATHER THAN ON THE LEVEL CONTOUR.

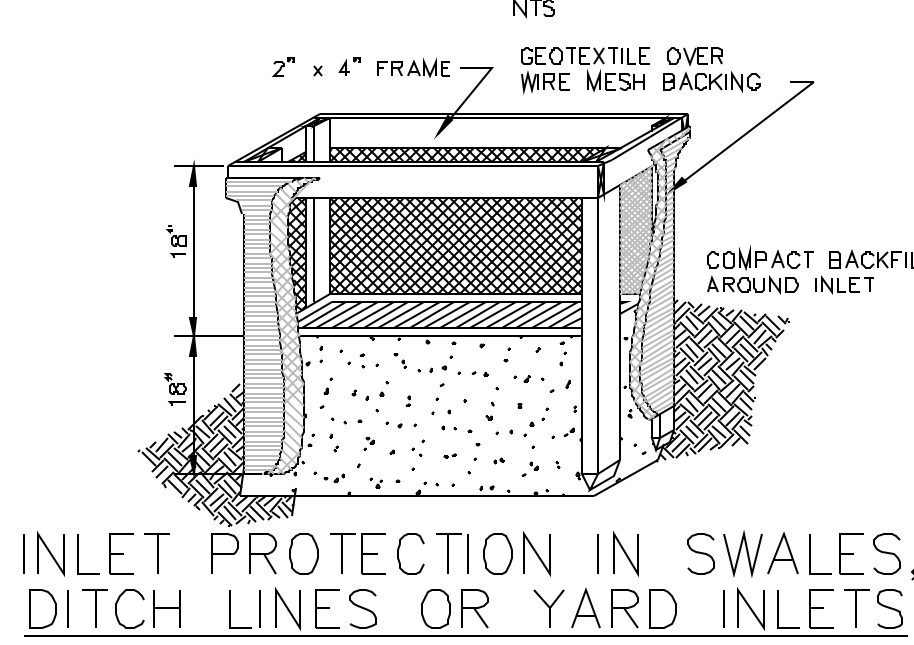
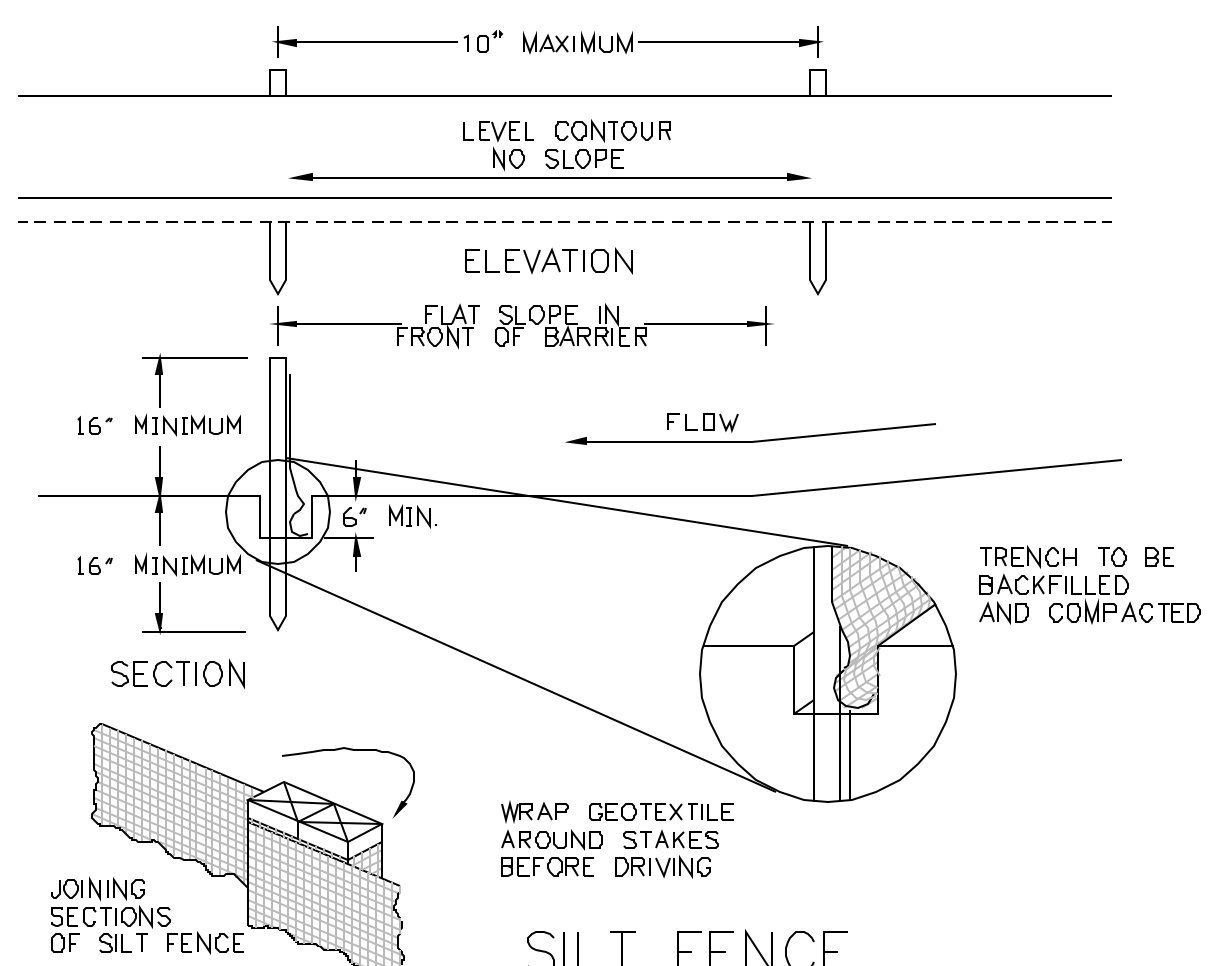
FLAT SLOPES - SILT FENCE MUST ALSO BE USED ON THE FLATTEST AREAS AVAILABLE. BECAUSE OF THE GREAT IMPORTANCE SLOPE HAS ON WATER'S ABILITY TO TRANSPORT SEDIMENT, SILT FENCE SHOULD NEVER BE PLACED DIRECTLY AT THE TOE OF A SLOPE IF IT IS AT ALL POSSIBLE TO PLACE IT SEVERAL FEET AWAY. SILT FENCE GENERALLY SHOULD BE PLACED ON THE FLATTEST AREA AVAILABLE TO INCREASE THE SHALLOW PONDING OF RUNOFF AND MAXIMIZE SPACE AVAILABLE FOR DEPOSITED SEDIMENT.

FLOW AROUND ENDS - TO PREVENT WATER PONDED BY THE SILT FENCE FROM FLOWING AROUND THE ENDS, EACH END MUST BE CONSTRUCTED UP-SLOPE SO THAT THE ENDS ARE AT A HIGHER ELEVATION.

VEGETATION - DENSE VEGETATION ALSO HAS THE EFFECT OF DISSIPATING FLOW ENERGIES AND CAUSING SEDIMENT DEPOSITION. SEDIMENT-TRAPPING EFFICIENCY WILL BE ENHANCED WHERE A DENSE STAND OF VEGETATION OCCURS FOR SEVERAL FEET BOTH BEHIND AND IN FRONT OF A SILT FENCE.



FABRIC PROPERTIES	VALUES	TEST METHOD
GRAB TENSILE STRENGTH	90 LB. MINIMUM	ASTM D 1682
MULLEN BURST STRENGTH	190 PSI MINIMUM	ASTM D 3786
SLURRY FLOW RATE	0.3 GAL./MIN./SQ. FT. MAXIMUM	
EQUIVALENT OPENING SIZE	40-80	US STD. SIEVE CW-02215
ULTRAVIOLET RADIATION STABILITY	90% MINIMUM	ASTM-G-26



SPECIFICATIONS FOR SILT FENCE:

- SILT FENCE SHALL BE CONSTRUCTED BEFORE UP-SLOPE LAND DISTURBANCE BEGINS.
- ALL SILT FENCE SHALL BE PLACED AS CLOSE TO THE CONTOUR AS POSSIBLE SO THAT WATER WILL NOT CONCENTRATE AT LOW POINTS IN THE FENCE AND SO THAT SMALL SWALES OR DEPRESSIONS WHICH MAY CARRY SMALL CONCENTRATED FLOWS TO THE SILT FENCE ARE DISSIPATED ALONG ITS LENGTH.
- TO PREVENT WATER PONDED BY THE SILT FENCE FROM FLOWING AROUND THE ENDS, EACH END SHALL BE CONSTRUCTED UP-SLOPE SO THAT THE ENDS ARE AT A HIGHER ELEVATION.
- WHERE POSSIBLE, SILT FENCE SHALL BE PLACED ON THE FLATTEST AREA AVAILABLE.
- WHERE POSSIBLE, VEGETATION SHALL BE PRESERVED FOR 5 FT. (OR AS MUCH AS POSSIBLE) UP-SLOPE FROM THE SILT FENCE. IF VEGETATION IS REMOVED, IT SHALL BE REESTABLISHED WITHIN 7 DAYS FROM THE INSTALLATION OF THE SILT FENCE.
- THE HEIGHT OF THE SILT FENCE SHALL BE A MINIMUM OF 16 IN. ABOVE THE ORIGINAL GROUND SURFACE.
- THE SILT FENCE SHALL BE PLACED IN A TRENCH CUT A MINIMUM OF 6 IN. DEEP. THE TRENCH SHALL BE CUT WITH A TRENCHER, CABLE LAYING MACHINE OR OTHER SUITABLE DEVICE WHICH WILL ENSURE AN ADEQUATELY UNIFORM TRENCH DEPTH.
- THE SILT FENCE SHALL BE PLACED WITH THE STAKES ON THE DOWNSLOPE SIDE OF THE GEOTEXTILE AND SO THAT 8 IN. OF CLOTH ARE BELOW THE GROUND SURFACE. EXCESS MATERIAL SHALL LAY ON THE BOTTOM OF THE 6 IN. DEEP TRENCH. THE TRENCH SHALL BE BACKFILLED AND COMPACTED.
- SEAMS BETWEEN SECTION OF SILT FENCE SHALL BE OVERLAPPED WITH THE END STAKES OF EACH SECTION WRAPPED TOGETHER BEFORE DRIVING INTO THE GROUND.
- MAINTENANCE - SILT FENCE SHALL ALLOW RUNOFF TO PASS ONLY AS DIFFUSE FLOW THROUGH THE GEOTEXTILE. IF RUNOFF OVERTOPS THE SILT FENCE, FLOWS UNDER OR AROUND THE ENDS, OR IN ANY OTHER WAY BECOMES A CONCENTRATED FLOW, ONE OF THE FOLLOWING SHALL BE PERFORMED, AS APPROPRIATE: 1) THE LAYOUT OF THE SILT FENCE SHALL BE CHANGED, 2) ACCUMULATED SEDIMENT SHALL BE REMOVED, OR 3) OTHER PRACTICES SHALL BE INSTALLED.

CRITERIA FOR SILT FENCE MATERIALS:

- FENCE POSTS - THE LENGTH SHALL BE A MINIMUM OF 32 IN. LONG. WOOD POSTS WILL BE 2-BY-2 IN. HARDWOOD OF SOUND QUALITY. THE MAXIMUM SPACING BETWEEN POSTS SHALL BE 10 FT.
- SILT FENCE FABRIC (SEE CHART BELOW):
 - INLET PROTECTION SHALL BE CONSTRUCTED EITHER BEFORE UP-SLOPE LAND DISTURBANCE BEGINS OR BEFORE THE STORM DRAIN BECOMES OPERATIONAL.
 - THE EARTH AROUND THE INLET SHALL BE EXCAVATED COMPLETELY TO A DEPTH AT LEAST 18 IN. THE WOODEN FRAME SHALL BE CONSTRUCTED OF 2-BY-4 IN. CONSTRUCTION-GRADE LUMBER. THE 2-BY-4 IN. POSTS SHALL BE DRIVEN 1 FT. INTO THE GROUND AT FOUR CORNERS OF THE INLET AND THE TOP PORTION OF 2-BY-4 IN. FRAME ASSEMBLED USING THE OVERLAP JOINT SHOWN. THE TOP OF THE FRAME SHALL BE AT LEAST 6 IN. BELOW ADJACENT ROADS IF PONDED WATER WOULD POSE A SAFETY HAZARD TO TRAFFIC.
 - WIRE MESH SHALL BE OF SUFFICIENT STRENGTH TO SUPPORT FABRIC WITH WATER FULLY IMPOUNDED AGAINST IT. IT SHALL BE STRETCHED TIGHTLY AROUND THE FRAME AND FASTENED SECURELY TO THE FRAME.
 - GEOTEXTILE CLOTH SHALL HAVE AN EQUIVALENT OPENING SIZE OF 20-40 SIEVE AND BE RESISTANT TO SUNLIGHT. IT SHALL BE STRETCHED TIGHTLY AROUND THE FRAME AND FASTENED SECURELY. IT SHALL EXTEND FROM THE TOP OF THE FRAME TO 18 IN. BELOW THE INLET NOTCH ELEVATION. THE GEOTEXTILE SHALL OVERLAP ACROSS ONE SIDE OF THE INLET SO THE ENDS OF THE CLOTH ARE NOT FASTENED TO THE SAME POST.
 - BACKFILL SHALL BE PLACED AROUND THE INLET IN COMPACTED 6 IN. LAYERS UNTIL THE EARTH IS EVEN WITH NOTCH ELEVATION ON ENDS AND TOP ELEVATION ON SIDES.
 - A COMPACTED EARTH DIKE OR A CHECK DAM SHALL BE CONSTRUCTED IN THE DITCH LINE BELOW THE INLET IF THE INLET IS NOT IN A DEPRESSION AND IF RUNOFF BYPASSING THE INLET WILL NOT FLOW TO A SETTLING POND. THE TOP OF EARTH DIKES SHALL BE AT LEAST 6 IN. HIGHER THAN THE TOP OF THE FRAME.

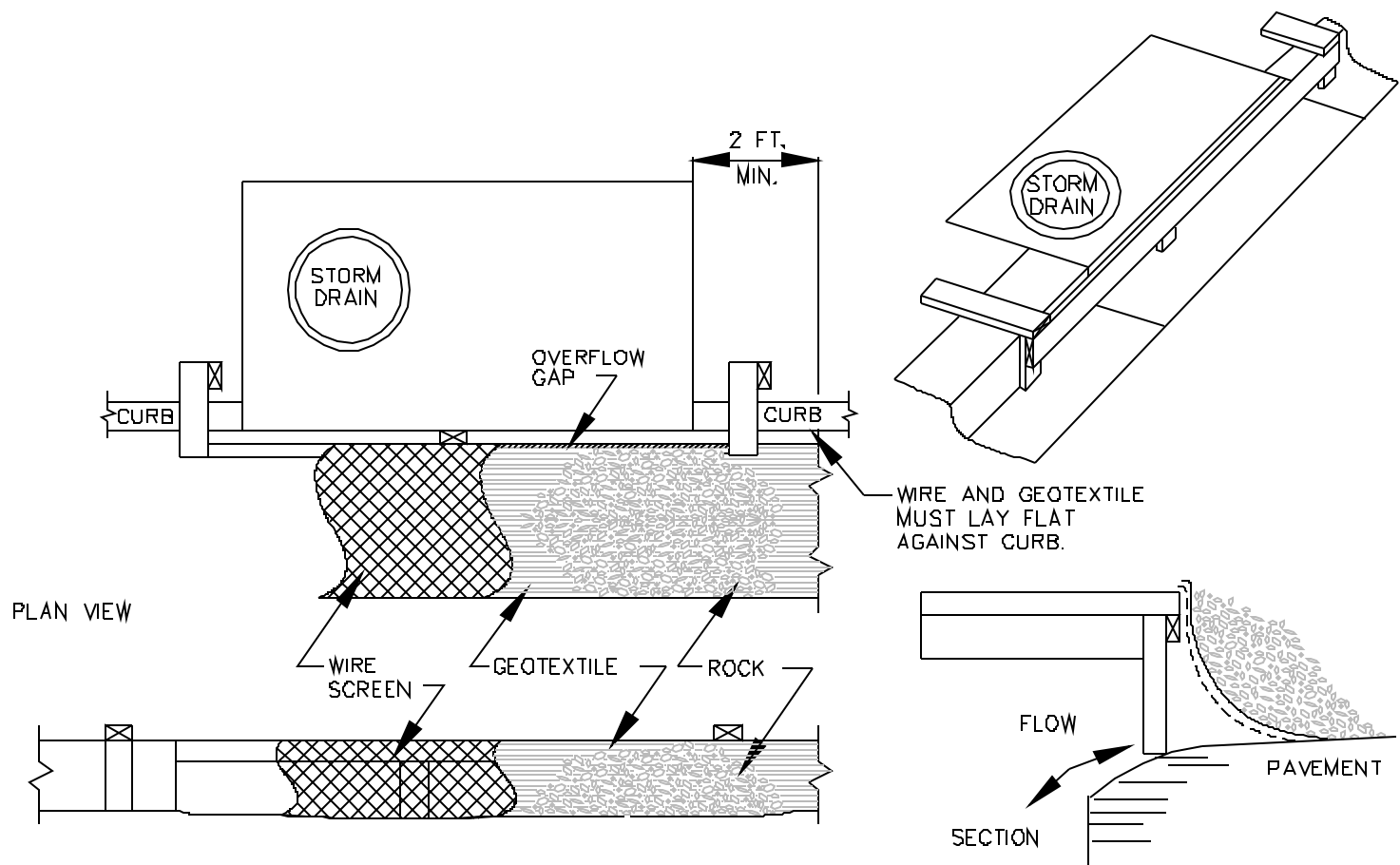
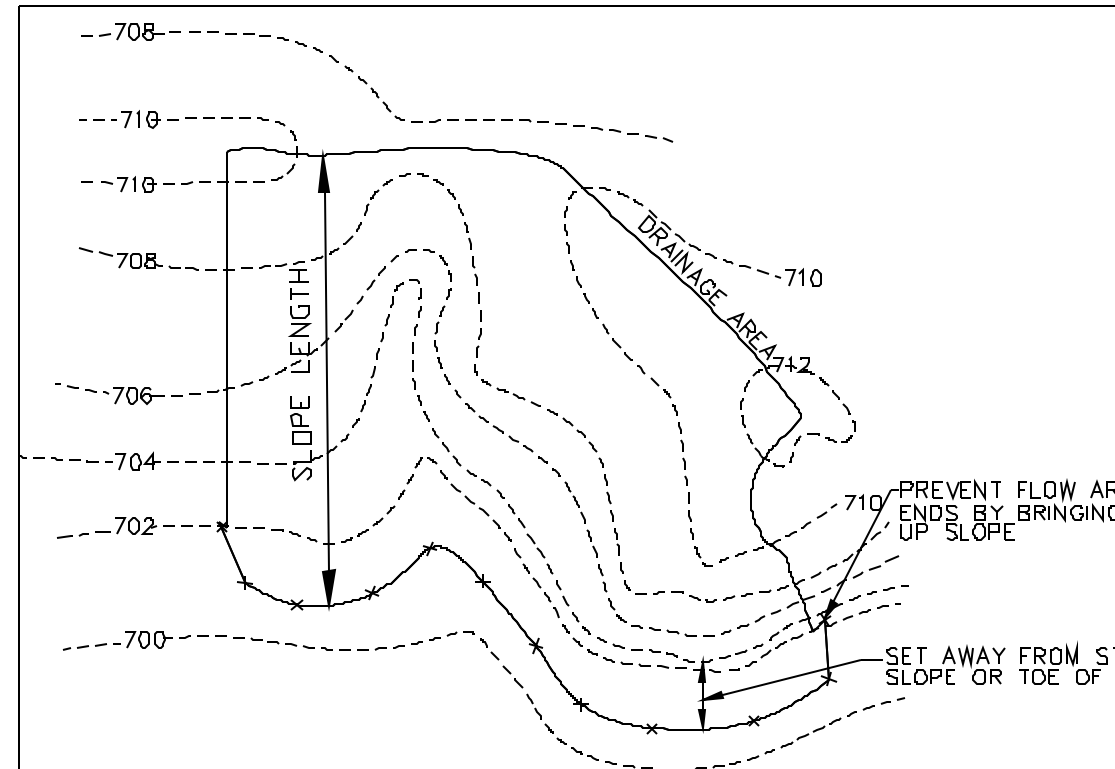
DRAINAGE AREA:

- INLET PROTECTION SHALL BE CONSTRUCTED EITHER BEFORE UP-SLOPE LAND DISTURBANCE BEGINS OR BEFORE THE STORM DRAIN BECOMES OPERATIONAL.
- THE WOODEN FRAME IS TO BE CONSTRUCTED OF 2-BY-4 IN. CONSTRUCTION-GRADE LUMBER. THE END SPACERS SHALL BE A MINIMUM OF 1 FT. BEYOND BOTH ENDS OF THE THROAT OPENING. THE ANCHORS SHALL BE NAILED TO 2-BY-4 IN. STAKES DRIVEN ON THE OPPOSITE SIDE OF THE CURB.
- THE WIRE MESH SHALL BE OF SUFFICIENT STRENGTH TO SUPPORT FABRIC AND STONE. IT SHALL BE A CONTINUOUS PIECE WITH A MINIMUM WIDTH OF 30 IN. AND 4 FT. LONGER THAN THE THROAT LENGTH OF THE INLET, 2 FT. ON EACH SIDE.
- GEOTEXTILE CLOTH SHALL HAVE AN EQUIVALENT OPENING SIZE (EOS) OF 20-40 SIEVE AND BE RESISTANT TO SUNLIGHT. IT SHALL BE AT LEAST THE SAME SIZE AS THE WIRE MESH.
- THE WIRE MESH AND GEOTEXTILE CLOTH SHALL BE FORMED TO THE CONCRETE GUTTER AND AGAINST THE FACE OF THE CURB ON BOTH SIDE OF THE INLET AND SECURELY FASTENED TO THE 2-BY-4 IN. FRAME.
- TWO-INCH STONE SHALL BE PLACED OVER THE WIRE MESH AND GEOTEXTILE IN SUCH A MANNER AS TO PREVENT WATER FROM ENTERING THE INLET UNDER OR AROUND THE GEOTEXTILE CLOTH.

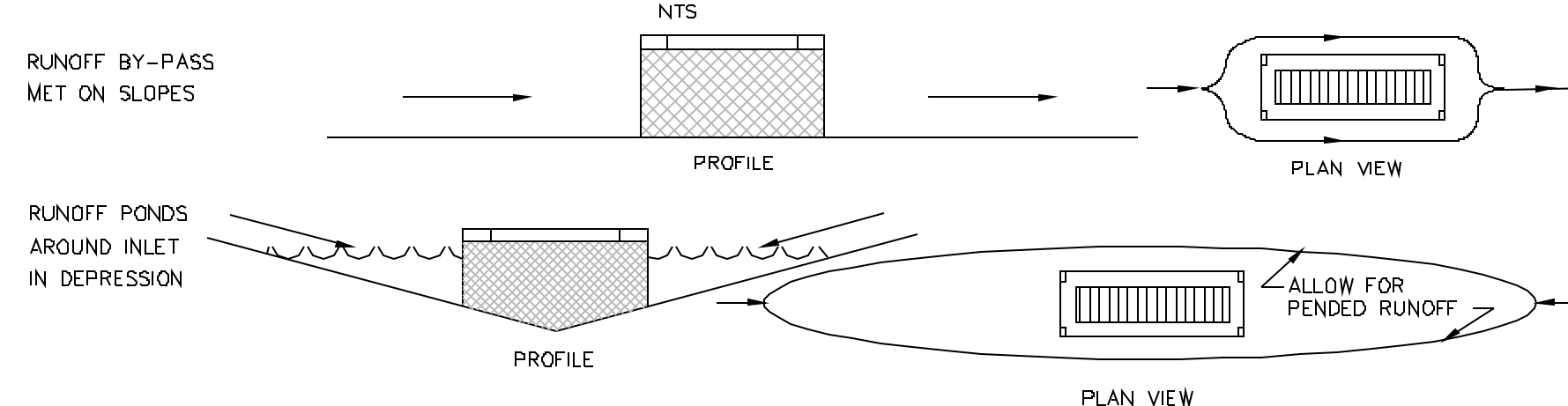
DISPERSING FLOW - PROPER APPLICATIONS OF SILT FENCE WILL ALLOW ALL THE INTERCEPTED RUNOFF TO PASS AS DIFFUSE FLOW THROUGH THE GEOTEXTILE. RUNOFF SHOULD NEVER OVERTOP SILT FENCE, FLOW AROUND THE ENDS, OR IN ANY OTHER WAY FLOW AS CONCENTRATED FLOW FROM THE PRACTICE. IF THIS DOES OCCUR, MAINTENANCE ALTERNATIVE SILT FENCE LAYOUT, OR OTHER PRACTICES ARE NEEDED.

SILT FENCE MAXIMUM DRAINAGE AREA BASED ON SLOPE AND SLOPE LENGTH		
SLOPE	FLATTER THAN 50:1	SLOPE LENGTH (FT.)
0% - 2%	FLATTER THAN 50:1	250
2% - 10%	50:1 - 10:1	125
10% - 20%	10:1 - 5:1	100
20% - 33%	5:1 - 3:1	75
33% - 50%	3:1 - 2:1	50
> 50%	> 2:1	25

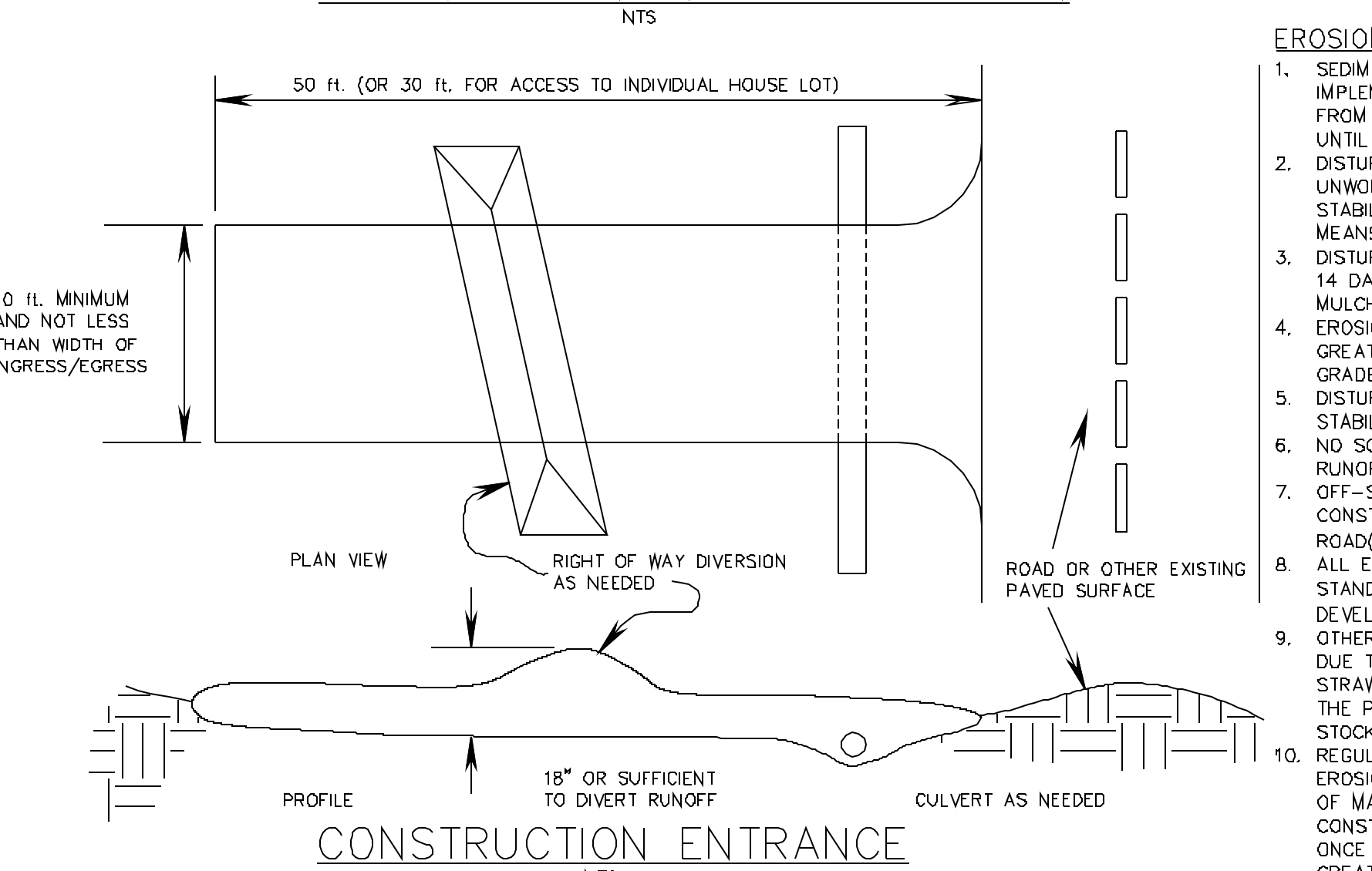
NOTE: FOR LARGER DRAINAGE AREAS, SEE STANDARDS FOR TEMPORARY DIVERSIONS, SEDIMENT TRAPS AND SEDIMENT BASINS.



CURB INLET PROTECTION



STORM DRAIN INLET PROTECTION

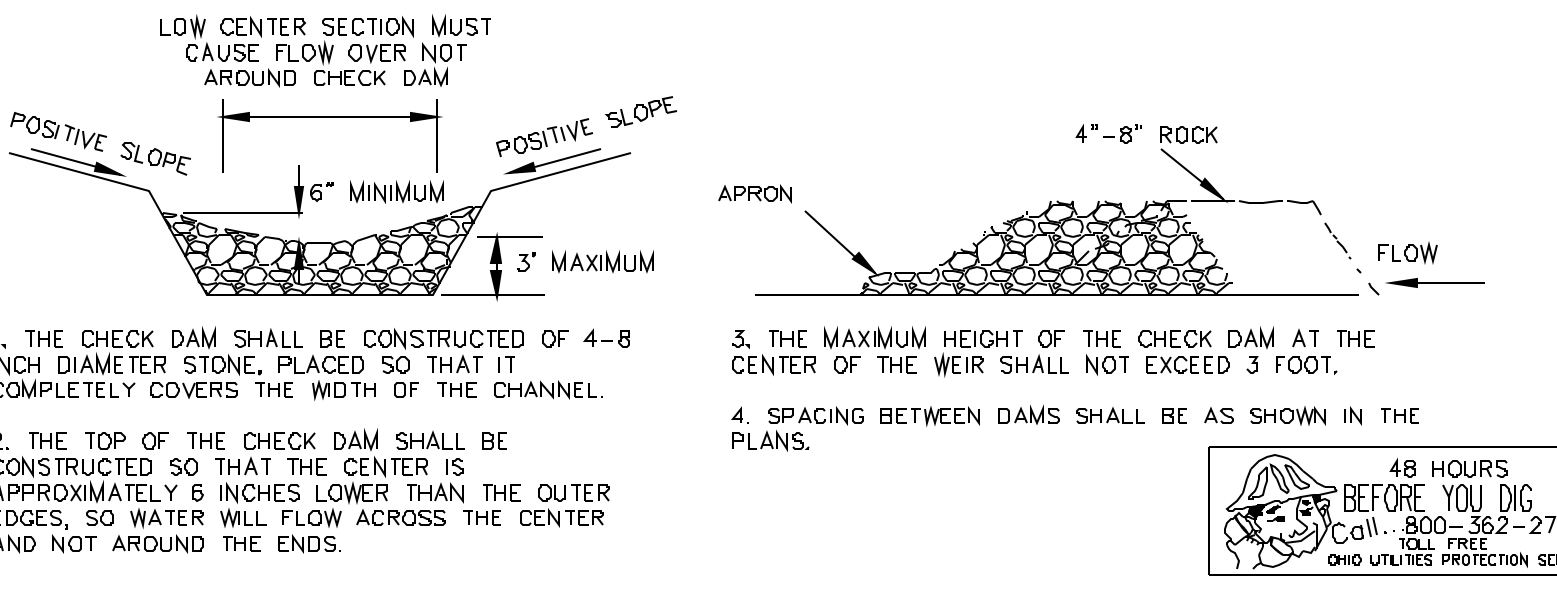


CONSTRUCTION ENTRANCE

DESCRIPTION: A CONSTRUCTION ENTRANCE IS A STABILIZED PAD OF AGGREGATE OVER A GEOTEXTILE BASE AND IS USED TO REDUCE THE AMOUNT OF MUD TRACKED OFF-SITE WITH CONSTRUCTION TRAFFIC.

- CONDITIONS WHERE PRACTICE APPLIES:**
- A CONSTRUCTION ENTRANCE SHOULD BE USED:
 - WHERE CONSTRUCTION VEHICLES LEAVE ACTIVE CONSTRUCTION AREAS ONTO SURFACES WHERE RUNOFF IS NOT CHECKED BY SEDIMENT CONTROLS;
 - AT ALL POINTS OF EGRESS TO PUBLIC ROADS;
 - WHERE FREQUENT VEHICLES AND EQUIPMENT INGRESS/EGRESS IS EXPECTED SUCH AS AT THE ENTRANCE OF INDIVIDUAL BUILDING LOTS;

PLANNING CONSIDERATIONS:
THIS PRACTICE SHOULD NOT BE RELIED ON TO REMOVE MUD FROM CONSTRUCTION TRAFFIC. MOST MUD IS FLUNG FROM TIRES AS VEHICLES REACH SPEEDS HIGHER THAN IS REACHED ON SITE. THE BEST APPROACH TO PREVENTING OFF-SITE TRACKING IS TO KEEP VEHICLES THAT FREQUENTLY ENTER AND LEAVE A SITE AWAY FROM MUDDY AREAS IN THE FIRST PLACE. VEHICLES SHOULD BE RESTRICTED TO STABILIZED AREAS TO THE EXTENT PRACTICAL, AND AREAS WHERE FREQUENT INGRESS/EGRESS IS EXPECTED SHOULD BE STABILIZED.



- THE CHECK DAM SHALL BE CONSTRUCTED OF 4-8 INCH DIAMETER STONE, PLACED SO THAT IT COMPLETELY COVERS THE WIDTH OF THE CHANNEL.
- THE TOP OF THE CHECK DAM SHALL BE CONSTRUCTED SO THAT THE CENTER IS APPROXIMATELY 6 INCHES LOWER THAN THE OUTER EDGES, SO WATER WILL FLOW ACROSS THE CENTER AND NOT AROUND THE ENDS.
- THE MAXIMUM HEIGHT OF THE CHECK DAM AT THE CENTER OF THE WEIR SHALL NOT EXCEED 3 FOOT.
- SPACING BETWEEN DAMS SHALL BE AS SHOWN IN THE PLANS.



STORM DRAIN INLET PROTECTION

DESCRIPTION:
STORM DRAIN INLET PROTECTION CONSISTS OF A GEOTEXTILE BARRIER SUPPORTED AROUND OR ACROSS A STORM DRAIN INLET. IT IS USED TO PREVENT SEDIMENT-LADEN WATER FROM ENTERING A STORM DRAIN SYSTEM. IT REDUCES THE RATE AT WHICH SEDIMENT-LADEN WATER MAY ENTER AN INLET THEREBY CAUSING PONDING AND SETTLING OF SEDIMENT.

CONDITIONS WHERE PRACTICE APPLIES AND PLANNING CONSIDERATIONS:

THIS PRACTICE IS NOT GENERALLY RECOMMENDED AS A PRIMARY MEANS OF SEDIMENT CONTROL. IT SHOULD ONLY BE USED IF IT IS NOT POSSIBLE TO TEMPORARILY DIVERT THE STORM DRAIN OUTFALL INTO A SEDIMENT TRAP OR SEDIMENT BASIN OR IF IT IS TO BE USED ONLY FOR A SHORT PERIOD OF TIME DURING THE CONSTRUCTION PROCESS.

INLET PROTECTION IN EFFECT BLOCKS STORM DRAIN INLETS. THE RESULT FROM BLOCKING STORM DRAIN INLETS WILL HAVE ON THE SITE'S DRAINAGE MUST BE CONSIDERED. LONG SLOPING STREETS OR DITCHES DESIGNED WITH SEVERAL INLETS ALONG THEIR LENGTH MAY HAVE A SIGNIFICANT AMOUNT OF SURFACE FLOW ACCUMULATE IF INLET PROTECTION IS USED. IN LOW AREAS, A POND WILL FORM AROUND INLETS. PONDING IS NECESSARY FOR REMOVING SEDIMENT FROM RUNOFF AND SHOULD BE ENCOURAGED IN CONJUNCTION WITH INLET PROTECTION.

SPECIFICATIONS FOR CURB INLET PROTECTION:

- INLET PROTECTION SHALL BE CONSTRUCTED EITHER BEFORE UPSLOPE LAND DISTURBANCE BEGINS OR BEFORE THE STORM DRAIN BECOMES OPERATIONAL.
- THE WOODEN FRAME IS TO BE CONSTRUCTED OF 2-BY-4-IN. CONSTRUCTION-GRADE LUMBER. THE END SPACERS SHALL BE A MINIMUM OF 1 FT. BEYOND BOTH ENDS OF THE THROAT OPENING. THE ANCHORS SHALL BE NAILED TO 2-BY-4-IN. STAKES DRIVEN ON THE OPPOSITE SIDE OF THE CURB.
- THE WIRE MESH SHALL BE OF SUFFICIENT STRENGTH TO SUPPORT FABRIC AND STONE. IT SHALL BE A CONTINUOUS PIECE WITH A MINIMUM WIDTH OF 30 IN. AND 4 FT. LONGER THAN THE THROAT LENGTH OF THE INLET, 2 FT. ON EACH SIDE.
- GEOTEXTILE CLOTH SHALL HAVE AN EQUIVALENT OPENING SIZE (EOS) OF 20-40 SIEVE AND BE RESISTANT TO SUNLIGHT. IT SHALL BE AT LEAST THE SAME SIZE AS THE WIRE MESH.
- THE WIRE MESH AND GEOTEXTILE CLOTH SHALL BE FORMED TO THE CONCRETE GUTTER AND AGAINST THE FACE OF THE CURB ON BOTH SIDES OF THE INLET AND SECURELY FASTENED TO THE 2-BY-4-IN. FRAME.
- TWO-INCH STONE SHALL BE PLACED OVER THE WIRE MESH AND GEOTEXTILE IN SUCH A MANNER AS TO PREVENT WATER FROM ENTERING THE INLET UNDER OR AROUND THE GEOTEXTILE CLOTH.

EROSION NOTES

- SEDIMENT PONDS/TRAPS AND PERIMETER CONTROLS SHALL BE IMPLEMENTED AS A FIRST STEP OF GRADING AND WITHIN 7 DAYS FROM THE START OF GRUBBING AND SHALL CONTINUE TO FUNCTION UNTIL UPLAND AREAS ARE STABILIZED.
- DISTURBED AREAS WITHIN 50 FEET OF A STREAM, WHICH WILL REMAIN UNWORKED FOR A PERIOD OF 14 DAYS OR MORE, SHALL BE STABILIZED WITH SEEDING AND MULCHING OR OTHER APPROPRIATE MEANS WITHIN 2 DAYS.
- DISTURBED AREAS WHICH WILL REMAIN UNWORKED FOR A PERIOD OF 14 DAYS OR MORE, SHALL BE STABILIZED WITH SEEDING AND MULCHING OR OTHER APPROPRIATE MEANS WITHIN 7 DAYS.
- EROSION CONTROL BLANKETS WITH MATING WILL BE USED ON DITCHES GREATER THAN 1.5% AND ALL OTHER SLOPES GREATER THAN 6% GRADE.
- DISTURBED AREAS THAT WILL BE IDLE OVER WINTER SHALL BE STABILIZED PRIOR TO NOVEMBER 1.
- NO SOLID OR LIQUID WASTE SHALL BE DISCHARGED INTO STORM WATER RUNOFF.
- OFF-SITE VEHICLE TRACKING SEDIMENT SHALL BE MINIMIZED. CONSTRUCTION VEHICLES ARE LIMITED TO THE CONSTRUCTION ACCESS ROAD(S) NOTED ON THE PLAN.
- ALL EROSION AND SEDIMENT CONTROL PRACTICES MUST MEET THE STANDARDS AND SPECIFICATIONS OF THE OHIO RAINWATER AND LAND DEVELOPMENT HANDBOOK (1996).
- OTHER EROSION AND SEDIMENT CONTROL ITEMS MAY BE NECESSARY DUE TO ENVIRONMENTAL CONDITIONS. A TEMPORARY COVERING OF STRAW MULCH OR BARE GROUND THROUGHOUT THE DURATION OF THE PROJECT IS EFFECTIVE MEANS OF MINIMIZING EROSION. A STOCKPILE OF STRAW BALES SHOULD BE ON HAND.
- REGULAR INSPECTION AND MAINTENANCE WILL BE PROVIDED FOR ALL EROSION AND SEDIMENT CONTROL PRACTICES. PERMANENT RECORDS OF MAINTENANCE AND INSPECTIONS MUST BE KEPT THROUGHOUT THE CONSTRUCTION PERIOD. INSPECTIONS MUST BE MADE A MINIMUM OF ONCE EVERY 7 DAYS AND IMMEDIATELY AFTER STORM EVENTS GREATER THAN 0.5 INCHES OF RAIN IN A 24-HOUR PERIOD. PROVIDE NAME OF INSPECTOR, MAJOR OBSERVATIONS, DATE OF INSPECTION AND CORRECTIVE MEASURES TAKEN.

SPECIFICATIONS FOR CONSTRUCTION ENTRANCE:

- STONE SIZE--TWO-INCH STONE SHALL BE USED, OR RECYCLED CONCRETE EQUIVALENT.
- LENGTH--THE CONSTRUCTION ENTRANCE SHALL BE AS LONG AS REQUIRED TO STABILIZE HIGH TRAFFIC AREAS BUT NOT LESS THAN 50 FT. (EXCEPT ON SINGLE RESIDENCE LOT WHERE A 30-FT. MINIMUM LENGTH APPLIES).
- THICKNESS--THE STONE LAYER SHALL BE AT LEAST 6 IN. THICK.
- WIDTH--THE ENTRANCE SHALL BE AT LEAST 10 FT. WIDE, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS AND EGRESS OCCURS.
- BEDDING--A GEOTEXTILE SHALL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING STONE. IT SHALL HAVE A GRAB TENSILE STRENGTH OF AT LEAST 200 LB. AND A MULLEN BURST STRENGTH OF AT LEAST 190 LB.
- CULVERT--A PIPE OR CULVERT SHALL BE CONSTRUCTED UNDER THE ENTRANCE IF NEEDED TO PREVENT SURFACE WATER FLOWING ACROSS THE ENTRANCE FROM BEING DIRECTED OUT ONTO PAVED SURFACES.
- WATER BAR--A WATER BAR SHALL BE CONSTRUCTED AS PART OF THE CONSTRUCTION ENTRANCE IF NEEDED TO PREVENT SURFACE RUNOFF FROM FLOWING THE LENGTH OF THE CONSTRUCTION ENTRANCE AND OUT ONTO PAVED SURFACES.
- MAINTENANCE--TOP DRESSING OF ADDITIONAL STONE SHALL BE APPLIED AS CONDITIONS DEMAND. MUD SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC ROADS, OR ANY SURFACE WHERE RUNOFF IS NOT CHECKED BY SEDIMENT CONTROLS, SHALL BE REMOVED IMMEDIATELY. REMOVAL SHALL BE ACCOMPLISHED BY SCRAPING OR SWEEPING.
- CONSTRUCTION ENTRANCES SHALL NOT BE RELIED UPON TO REMOVE MUD FROM VEHICLES AND PREVENT OFF-SITE TRACKING. VEHICLES THAT ENTER AND LEAVE THE CONSTRUCTION-SITE SHALL BE RESTRICTED FROM MUDDY AREAS.

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1959 West 26th Street, Suite 300
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08/28/2020	80% SET	
10/15/2020	PRICING UPDATE	
11/02/2020	PERMIT	
2/18/2021	NECORS	

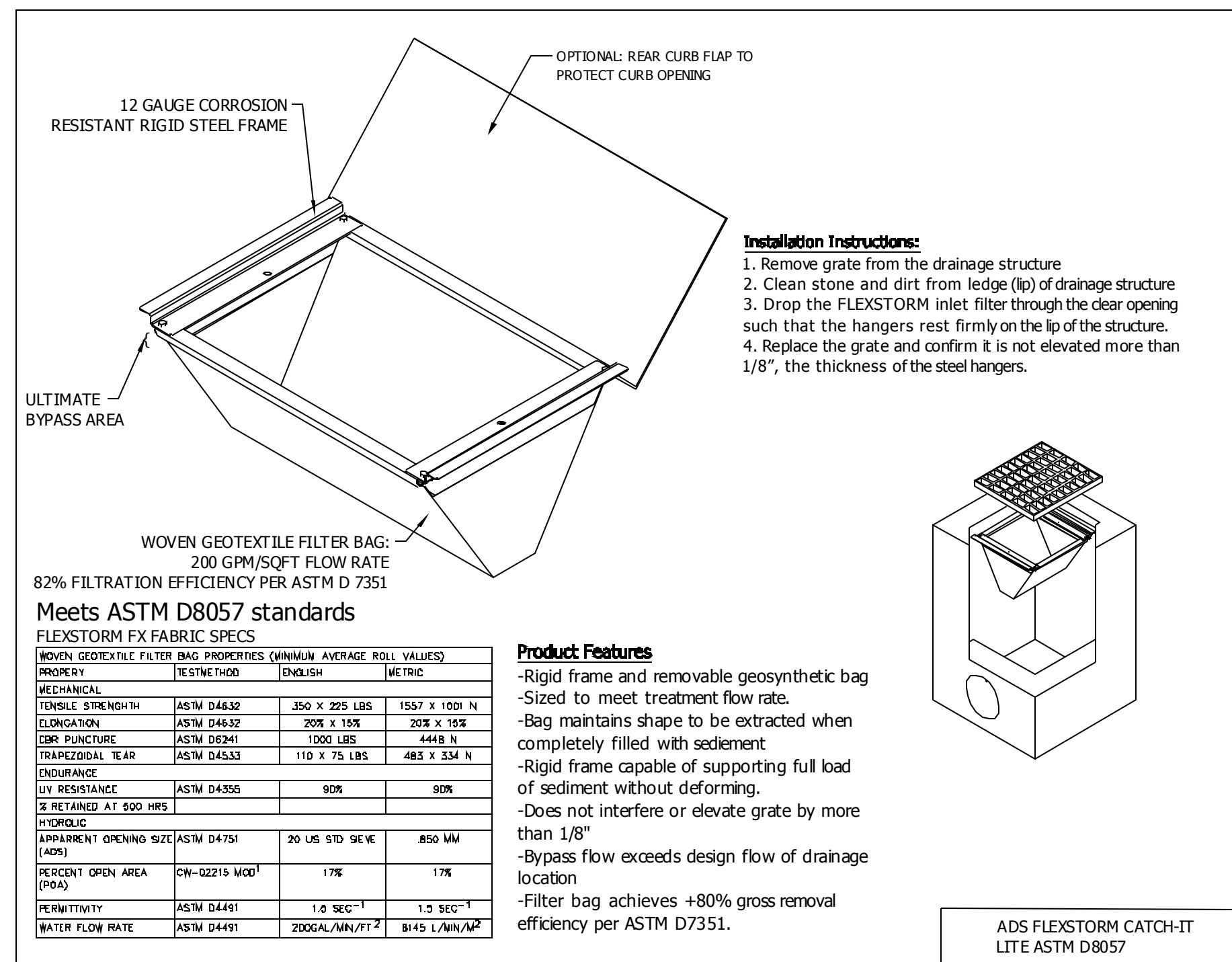
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VOLUME 1: NEW SENIOR APARTMENT BUILDING
14660 PRIVATE DRIVE, EAST CLEVELAND, OHIO 44112

STATE OF OHIO REGISTERED PROFESSIONAL ENGINEER
DAVID A. PIETRANTONE
E-61756

PROJECT NO: 2019.25
TITLE: SWPPP

RIVERSTONE
LAND SURVEYING - ENGINEERING - DESIGN
3800 LAKESIDE AVENUE - SUITE 100
CLEVELAND - OHIO - 44114
PHONE: (216) 491-2000 FAX: (216) 491-9640
WWW.RIVERSTONESURVEY.COM
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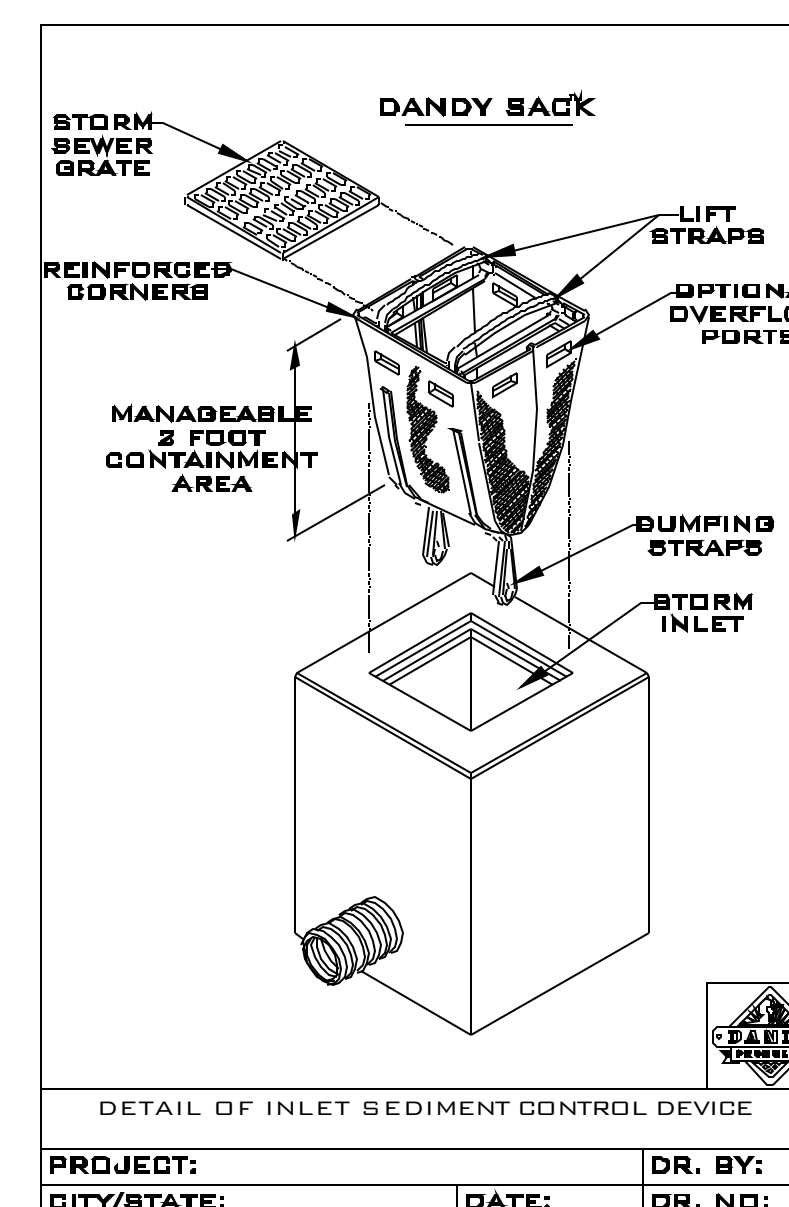
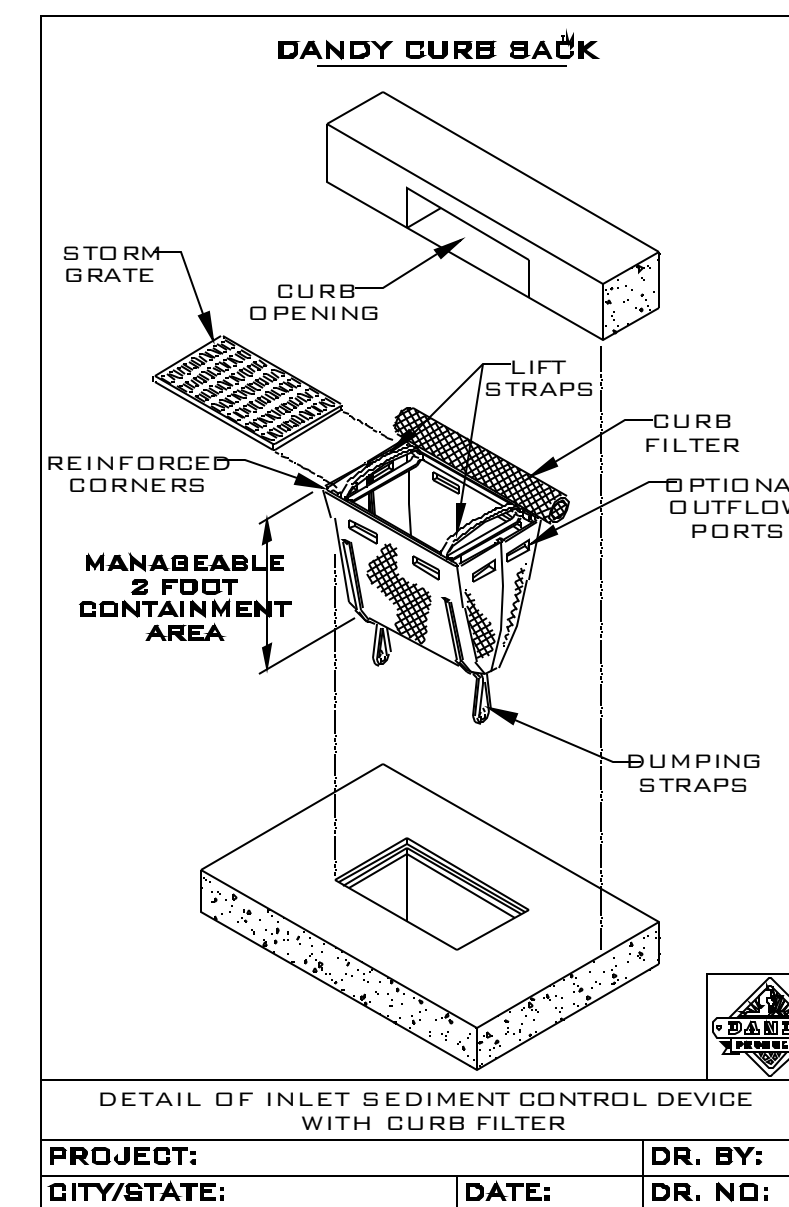
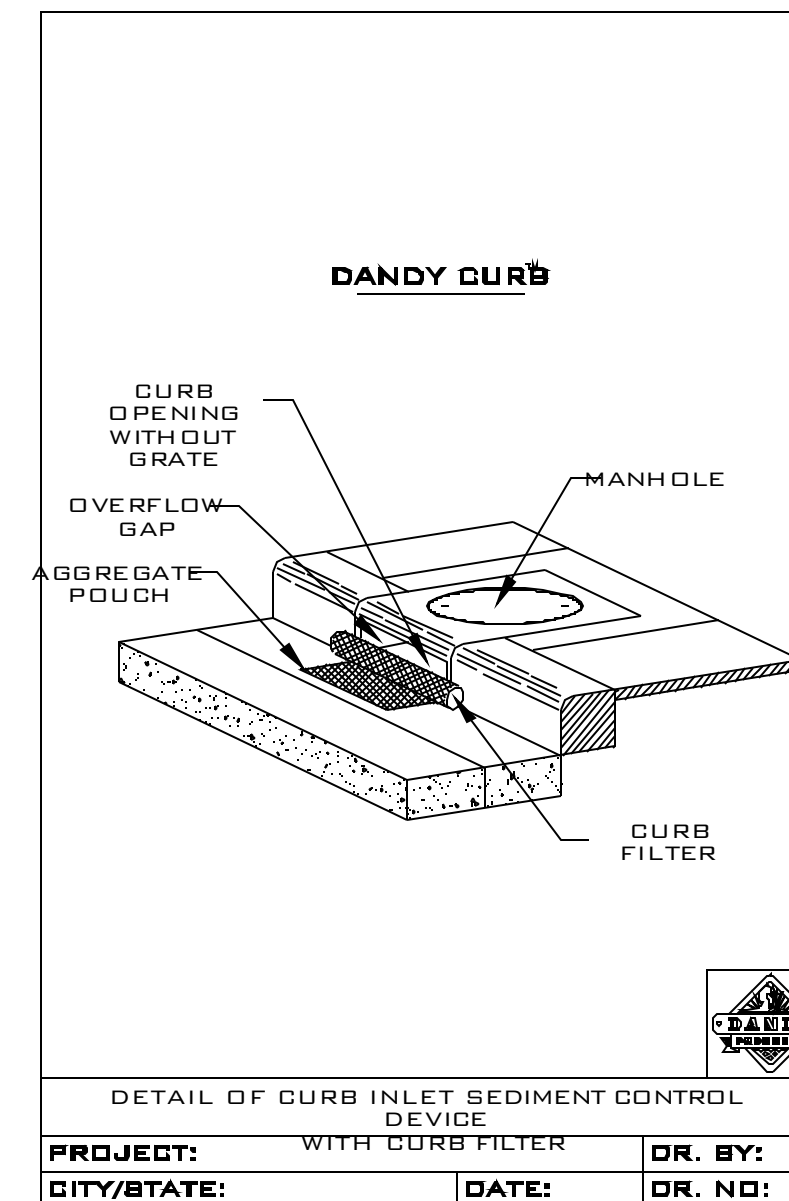
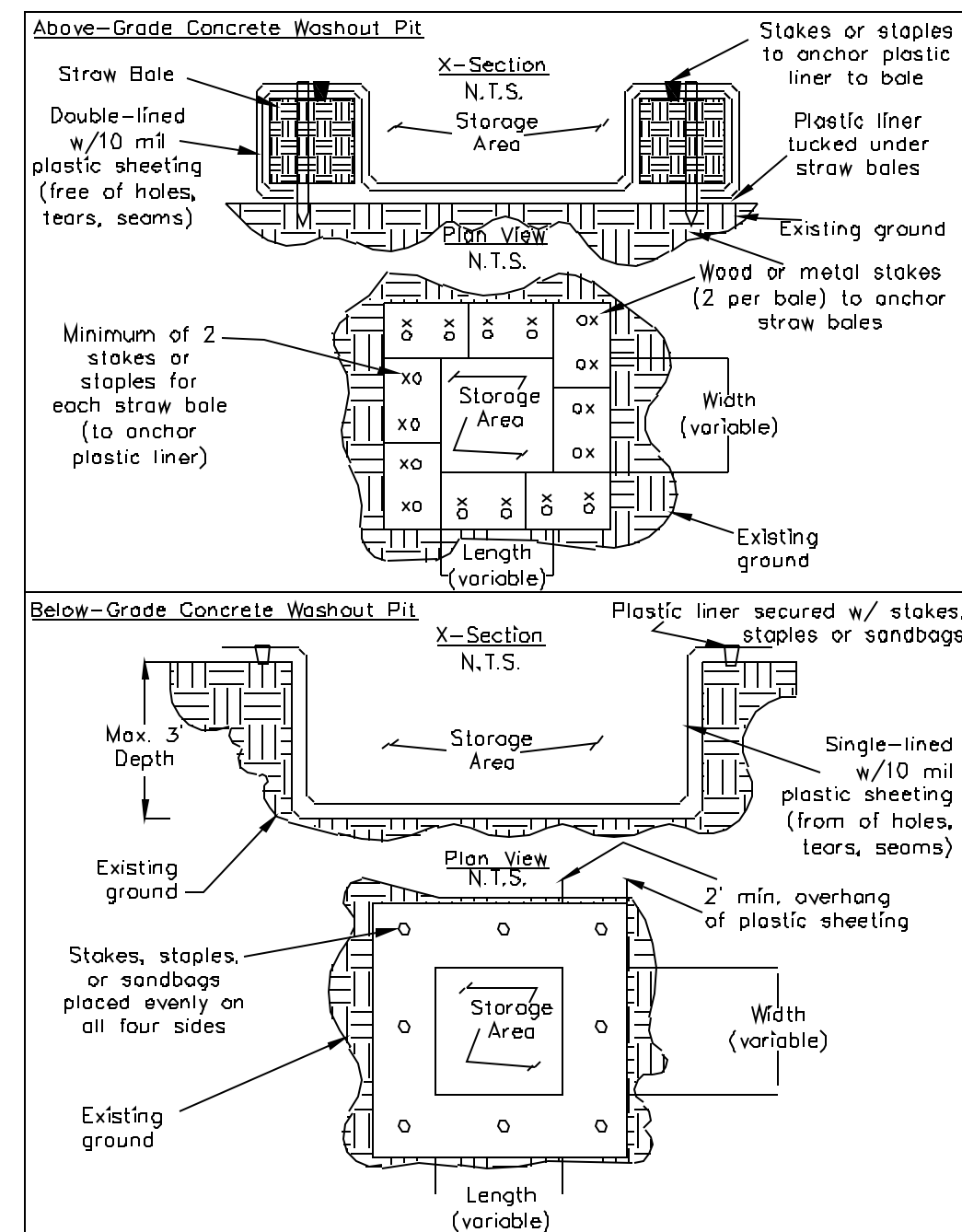
Concrete Washout Areas

- Installation:**
1. Concrete wash water shall not be allowed to flow to streams, ditches, storm drains, or any other water conveyance and washout pits shall be situated a minimum of fifty (50) feet from them.
 2. Field tile or other subsurface drainage structures within 10 ft. of the sump shall be cut and plugged.
 3. Ensure a stable path is provided for concrete trucks to reach the washout area.
 4. A highly visible sign that reads "Concrete Washout Area" shall be erected adjacent to the washout pit.
 5. Surface runoff generated from upslope areas shall be diverted away from below-grade washout pits so as not to flow into them.
 6. A single centralized washout area may be utilized for multiple sublots.
- Maintenance:**
7. The washout pit must be inspected frequently to ensure the liner is intact.
 8. Once 75% of the original volume of the washout pit is filled or if the liner is torn, the material must be removed and properly disposed of once it is completely hardened. Once the hardened concrete is removed, the liner must be replaced (if torn). A new pit must be constructed if the original structure is no longer suitable.
- Removal:**
9. Once the washout pit is no longer needed, ensure all washout material has been completely hardened, then remove and properly dispose of all materials. If straw bales were used, they can be spread as mulch.
 10. Prefabricated containers specifically designed for concrete washout collection may be used subject to prior approval by the Community Engineer. Follow the manufacturer's suggestions for installation, maintenance and removal procedures.

Sizing of Concrete Washout Pits

Below-grade (3-ft depth)			Above-grade (2-ft depth)		
# of concrete trucks expected to be washed out on site*	Width (ft)	Length (ft)	# of concrete trucks expected to be washed out on site*	Width (ft)	Length (ft)
2-3	3	3	2	3	3
4-5	4	4	3-4	4	4
6-7	5	5	5-6	5	5
8-10	6	6	7-8	6	6
11-14	7	7	9-11	7	7
			12-15	8	8

*For small projects using a maximum of only one truckload of concrete or utilizing on-site mixing, rinsing of equipment may take place on the lot without a pit, provided it can be done on a maximum of fifty (50) feet away from any water conveyances



DANDY CURB SACK SPECIFICATIONS

NOTE: THE DANDY CURB SACK WILL BE MANUFACTURED IN THE USA FROM A NONFLAMMABLE FABRIC THAT MEETS OR EXCEEDS THE FOLLOWING SPECIFICATIONS

Mechanical Properties	Test Method	Units	MARY
Grab Tensile Strength	ASTM D 4632	lb (kg)	1,422 (645) X 0.88 (400)
Drop Tensile Strength	ASTM D 4632	lb (kg)	21 X 10
Rupture Strength	ASTM D 4632	lb (kg)	200 (90)
Mullen Burst Strength	ASTM D 3786	psi (kPa)	2087 (145)
Triplicate Tear Strength	ASTM D 4535	lb (kg)	0.51 (1.1) X 0.33 (1.5)
UV Resistance	ASTM D 4355	Min (US Std Spec)	0.228 (10)
Apparent Opening Size	ASTM D 4751	Min (US Std Spec)	200 (80)
Perm. Rate	ASTM D 4491	1/min/ft ² (sq/m/MP ²)	2807 (115)
Permeability	ASTM D 4491	sec ⁻¹	1.1

*Note: All Dandy Sacks can be ordered with our optional oil absorbent pillow

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Mechanical Properties	Test Method	Units	MARY
Grab Tensile Strength	ASTM D 4632	lb (kg)	1,376 (620) X 1.02 (431)
Drop Tensile Strength	ASTM D 4632	lb (kg)	18 X 10
Rupture Strength	ASTM D 4632	lb (kg)	210 (95)
Mullen Burst Strength	ASTM D 3786	psi (kPa)	2087 (145)
Triplicate Tear Strength	ASTM D 4535	lb (kg)	0.47 (1.0) X 0.33 (1.5)
UV Resistance	ASTM D 4355	Min (US Std Spec)	0.228 (10)
Apparent Opening Size	ASTM D 4751	Min (US Std Spec)	200 (80)
Perm. Rate	ASTM D 4491	1/min/ft ² (sq/m/MP ²)	2807 (115)
Permeability	ASTM D 4491	sec ⁻¹	1.1

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Drop Tensile Strength	ASTM D 4632	lb (kg)	18 X 10
Rupture Strength	ASTM D 4632	lb (kg)	207 (93)
Mullen Burst Strength	ASTM D 3786	psi (kPa)	2087 (145)
Triplicate Tear Strength	ASTM D 4535	lb (kg)	0.47 (1.0) X 0.33 (1.5)
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