CREW CARWASH #63

111 RIDGE ROAD, MUNSTER, IN 46321

ADDENDUM 6 - 05/15/25

Location Map
(No Scale)

BENCHMARK

TOP OF SAW CUT CROSS ON THE SOUTHWEST CORNER OF THE SITE
ELEVATION = 621.26 (NAVD88)

Indiana811 Know what's **below.** **Call** before you dig.

To Submit a Locate Request
24 Hours a Day, Seven Days a Week:
Call 811 or 800-382-5544
www.Indiana811.org

INDEX OF SHEETS

LEGEND

- EXISTING DRAINAGE STRUCTURE
- EXISTING END SECTION
- EXISTING SANITARY STRUCTURE
- EXISTING FIRE HYDRANT
- EXISTING VALVE & BOX
- BB EXISTING B-BOX
- EXISTING STREET LIGHT
- POWER POLE
- SBC PEDESTAL
- MB MAIL BOX
- PROPOSED DRAINAGE STRUCTURE
- PROPOSED END SECTION
- PROPOSED SANITARY STRUCTURE
- PROPOSED FIRE HYDRANT
- PROPOSED VALVE & VAULT
- PROPOSED VALVE & BOX
- BB PROPOSED B-BOX
- PROPOSED STREET LIGHT
- DIRECTION OF FLOW
- OVERLAND FLOOD ROUTE
- 000.00 T/W PROPOSED TOP RETAINING WALL ELEVATION
- 000.00 B/W PROPOSED BOTTOM OF RETAINING ELEVATION
- 000.00 PROPOSED TOP OF CURB ELEVATION
- 000.00 PROPOSED GUTTER FLOWLINE ELEVATION
- 000.00 PROPOSED SURFACE ELEVATION

- 700 EXISTING CONTOURS
- 700 PROPOSED CONTOURS
- BOUNDARY LINES
- RIGHT-OF-WAY LINES
- PROPOSED LOT LINES
- UNDERLYING LOT LINE
- EASEMENT LINES
- BUILDING LINES
- CHAINLINK FENCE
- ORNAMENTAL FENCE
- OHW OVERHEAD POWER LINES
- T TELEPHONE ROUTE
- E ELECTRIC ROUTE
- G GAS ROUTE
- EXISTING WATER
- EXISTING STORM
- EXISTING SANITARY
- PROPOSED WATER
- PROPOSED STORM
- PROPOSED SANITARY

PROPOSED

STORM SEWER	CB.#1 /48"Ø	TYPE & LABEL/DIAMETER
	1022Z1, 1020M1	TYPE OF FRAME & COVER
	R: 100.00	RIM ELEVATION
	I: 95.00 (W)	PIPE INVERT AND DIRECTION
	I: 94.00 (E)	PIPE INVERT AND DIRECTION
SANITARY SEWER	SAN.MH A /48"Ø	TYPE & LABEL/DIAMETER
	1022Z1, 1020AGS	TYPE OF FRAME & COVER
	R: 100.00	RIM ELEVATION
	I: 94.00 (W)	PIPE INVERT AND DIRECTION
	I: 93.90 (E)	PIPE INVERT AND DIRECTION
WATER	FH #1	FIRE HYDRANT & NUMBER LABEL
	G: 100.0	GROUND ELEVATION
	V.B #1	V.B FOR VALVE BOX AND V.V FOR VALVE IN VAULT
	W/ 6" GATE VALVE	SIZE OF GATE VALVE OR TAPPING SLEEVE
	G: 100.0	GROUND ELEVATION
	T/P: 95.0	TOP OF PIPE ELEVATION

PROJECT CONTACTS

SCHOOL DISTRICT
SCHOOL TOWN OF MUNSTER
8616 COLUMBIA AVENUE
MUNSTER, IN 46321
(219) 836-9111

WATER UTILITY
TOWN OF MUNSTER
WATER DEPARTMENT
1005 RIDGE ROAD
MUNSTER, IN 46321
(219) 836-6970

ELECTRIC & GAS UTILITY
NIPSCO
801 E. 86th AVENUE
MERRILLVILLE, IN 46410
(800) 464-7726

DEVELOPER/OWNER
CREW CARWASH
11700 EXIT 4 PARKWAY
FISHERS, IN 46037

MUNICIPAL
TOWN OF MUNSTER
COMMUNITY DEVELOPMENT
1005 RIDGE ROAD
MUNSTER, IN 46321
(219) 836-6995

SANITARY SEWER UTILITY
TOWN OF MUNSTER
SEWER DEPARTMENT
1005 RIDGE ROAD
MUNSTER, IN 46321
(219) 836-6970

CABLE UTILITY
COMCAST
16 W. 84th DRIVE
MERRILLVILLE, IN 46410
(219) 738-2780

TELECOM UTILITY
AT&T
5858 N. COLLEGE AVENUE
INDIANAPOLIS, IN 46220
(317) 252-4007

DVG TEAM INC
1155 Troutwine Road
Crown Point, IN 46307
P: (219) 662-7710
F: (219) 662-2740
www.dvgteam.com

RUSSELL JACOB POZEN REGISTERED NO. PE10910667 STATE OF INDIANA PROFESSIONAL ENGINEER
05/15/2025

Crew Carwash
11700 Exit 5 Parkway
Fishers, IN 46037

DATE:	REVISIONS AND NOTES:

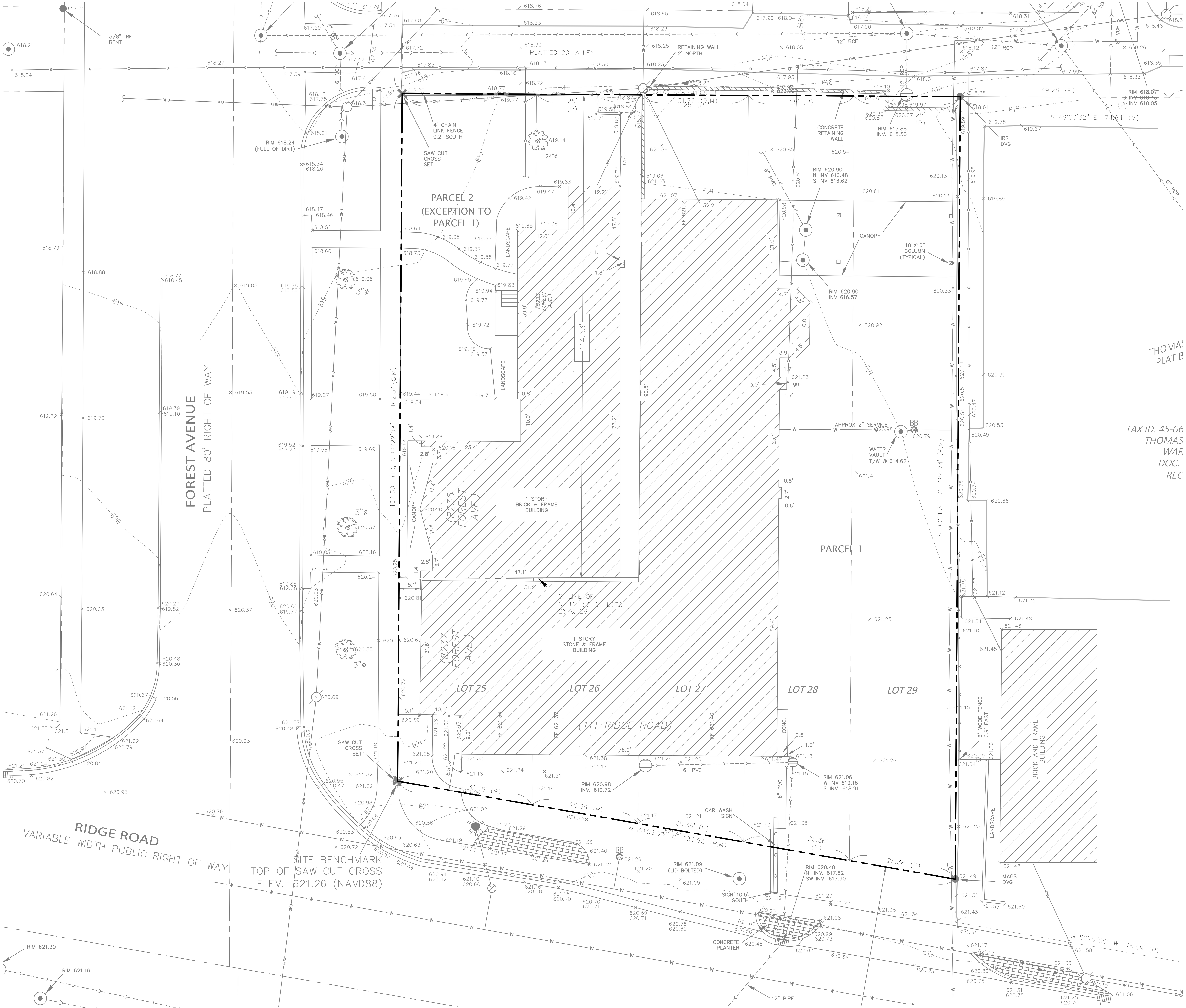
111 Ridge Road Munster
Crew #63
Cover Sheet

NO SCALE

DESIGN BY	DATE
DVG	05/19/23

PROJECT NO. 22-0538

C001



DATE OF SURVEY

1. TOPOGRAPHIC SURVEY COMPLETED 08/22/2022.

DVG
TEAM INC

1155 Troutwine Road
Crown Point, IN 46307
P: (219) 662-7710
F: (219) 662-2740
www.dvgteam.com

RUSSELL JACOB POZEN
REGISTERED
NO. PE10910667
STATE OF INDIANA
PROFESSIONAL ENGINEER

05/15/2025

Crew Carwash
11700 Exit 5 Parkway
Fishers, IN 46037

REVISIONS AND NOTES:

DATE:

111 Ridge Road Munster
Crew #63
Existing Conditions

SCALE: 1" = 10'

DESIGN BY	DATE
RJP	11/10/23
PROJECT NO.	
22-0538	

C101

NOTES

1. NO DEMOLITION SHALL TAKE PLACE UNTIL ALL PERMITS HAVE BEEN ACQUIRED.
2. THE CONTRACTOR SHALL FIELD-VERIFY SITE CONDITIONS AND INFORMATION ON DRAWINGS. PROMPTLY REPORT ANY CONCEALED CONDITIONS, MISTAKES, DISCREPANCIES, OR DEVIATIONS FROM THE INFORMATION SHOWN IN THE CONTRACT DOCUMENTS. THE OWNER IS NOT RESPONSIBLE FOR UNAUTHORIZED CHANGES OR EXTRA WORK REQUIRED TO CORRECT UNREPORTED DISCREPANCIES.
3. "REMOVAL" MEANS REMOVAL OF AN ITEM ABOVE GRADE AND REMOVAL OF ALL ELEMENTS BELOW GRADE INCLUDING, BUT NOT LIMITED TO, FOOTINGS, WIRINGS, AND PIPING THAT ARE IMMEDIATELY ADJACENT TO ITEM BEING REMOVED.
4. THE CONTRACTOR SHALL SAW CUT PAVEMENT FULL DEPTH AT LIMITS OF ASPHALT REMOVAL.
5. FOR ALL CONCRETE REMOVAL, THE CONTRACTOR SHALL REMOVE CONCRETE TO NEAREST JOINT, UNLESS NOTED OTHERWISE.
6. EXISTING MATERIALS TO REMAIN AROUND THE CONSTRUCTION AREA SHALL NOT BE DAMAGED DURING CONSTRUCTION. IF ANY DAMAGE IS MADE, THE CONTRACTOR IS RESPONSIBLE TO REPAIR OR RESTORE TO THE ORIGINAL CONDITION AT CONTRACTOR'S OWN EXPENSE.

LEGEND

- CONTRACTOR TO STRIP AND REMOVE SOD AND LANDSCAPING FROM ALL AREAS TO BE REGRADED AND PROPERLY DISPOSE. REMOVE SUBGRADE MATERIAL OR TOPSOIL AS NEEDED
- REMOVE BUILDING AND FOUNDATION TO 1' BELOW GRADE
- REMOVE BITUMINOUS PAVEMENT AND SUB-BASE MATERIAL
- REMOVE CONCRETE AND SUB-BASE MATERIAL AND BRICKS
- ITEM TO BE REMOVED
- LINEAR REMOVAL ITEM
- REMOVE SEWER

DVG TEAM INC
1155 Troutwine Road
Crown Point, IN 46307
P: (219) 662-7710
F: (219) 662-2740
www.dvgteam.com

RUSSELL JACOB PIEPER REGISTERED NO. PE10910667 STATE OF INDIANA PROFESSIONAL ENGINEER

05/15/2025

Crew Carwash
11700 Exit 5 Parkway
Fishers, IN 46037

DATE:	REVISIONS AND NOTES:
02/02/24	ADDENDUM 1

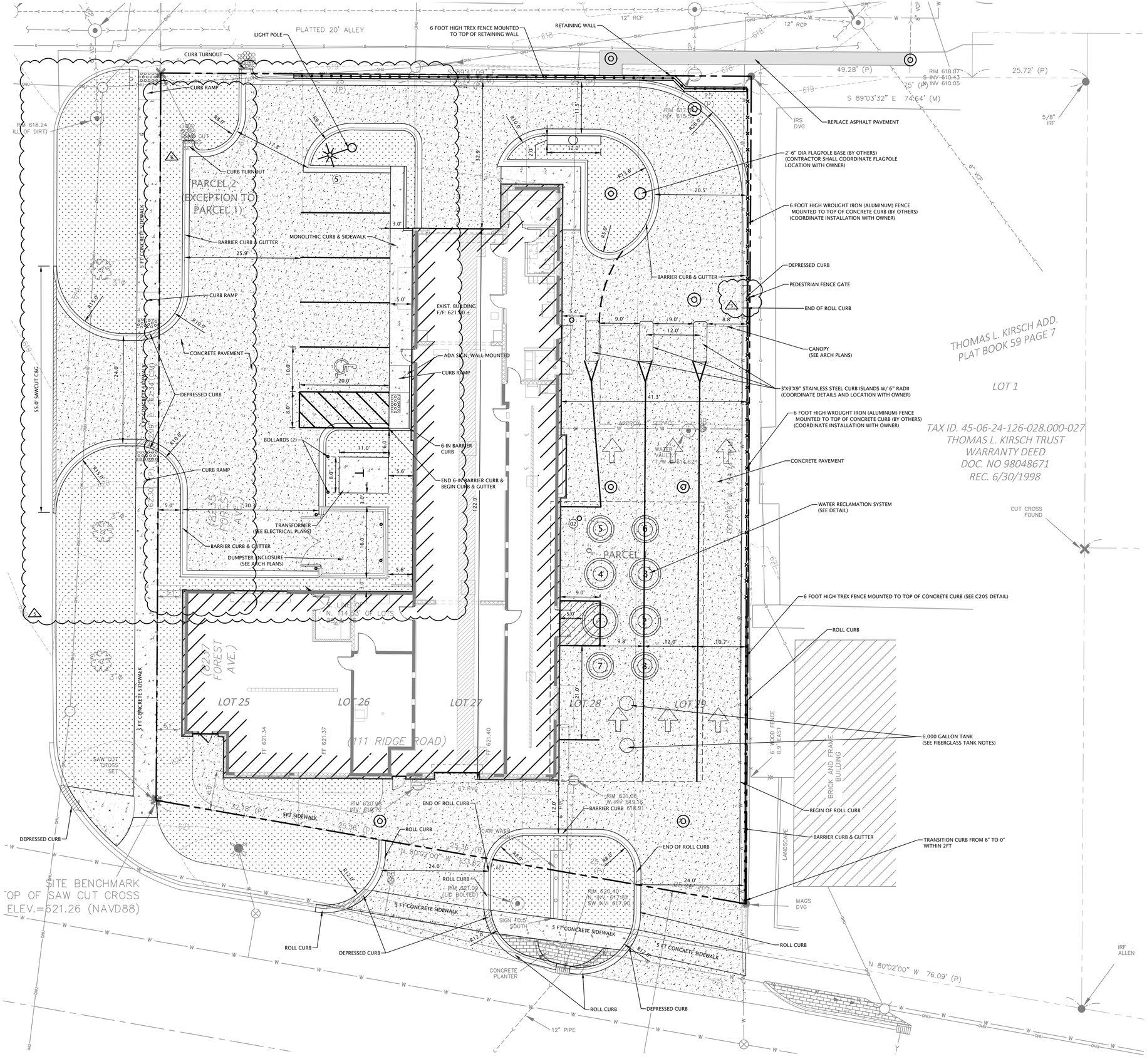
111 Ridge Road Munster
Crew #63

Demolition Plan

SCALE: 1" = 10'

DESIGN BY	DATE
RJP	11/17/23
PROJECT NO.	
22-0538	

C102



SITE DATA

- ZONING: CD-4A (GENERAL URBAN - A CHARACTER DISTRICT)
- BUILDING AREA: ±6,250 SQ. FT.
- PARKING SPACES: 07
- IMPERVIOUS SURFACE CALCULATION (CONSIDERING BOTH LOTS):
  - IMPERVIOUS 0.46 AC (88%)
  - PERVIOUS 0.06 AC (12%)
  - TOTAL (%) 0.52 AC
- FLOOR AREA RATIO CALCULATION (CONSIDERING BOTH LOTS):
  - FLOOR AREA ±6,250 SQ.FT.
  - TOTAL SITE AREA 0.52 AC (22,651 SQ.FT.)
  - FLOOR AREA RATIO 27.59%

LEGEND

- 4" (MIN) TOPSOIL & SEEDING/LANDSCAPING (SEE LANDSCAPE PLAN)
- CONCRETE SIDEWALK
- CONCRETE PAVEMENT
- ASPHALT PAVEMENT
- BRICK PAVERS
- STRIPING (PAINT, 4" WIDE)
- 6-INCH BARRIER CURB
- ROLL CURB AND GUTTER
- 6-FOOT HIGH TREX FENCE
- 6-FOOT HIGH IRON (ALUMINUM) FENCE

NOTES

1. DIMENSIONING SHALL BE TO FACE OF CURB; RADII SHALL BE BACK OF CURB UNLESS OTHERWISE NOTED.

DVG TEAM INC
1155 Troutwine Road
Crown Point, IN 46307
P: (219) 662-7710
F: (219) 662-2740
www.dvgteam.com

RUSSELL JACOB PIPER REGISTERED NO. PE10910667 STATE OF INDIANA PROFESSIONAL ENGINEER

05/15/2025

Crew Carwash
11700 Exit 5 Parkway
Fishers, IN 46037

DATE:	REVISIONS AND NOTES:
1 02/02/24	ADDENDUM 1
2 07/12/24	ADDENDUM 3
3 11/21/24	ADDENDUM 4
4 04/14/25	ADDENDUM 5
5 05/15/25	ADDENDUM 6

111 Ridge Road Munster
Crew #63
Site Plan

SCALE: 1" = 10'

DESIGN BY	DATE
RJP	11/17/23
PROJECT NO.	
22-0538	

C103

PARCEL 2
(EXCEPTION TO PARCEL 1)

PARCEL 1

EXIST. BUILDING
F/F. 621.00 ±

PLATTED 20'

N. 114.33' OF LOTS 25 & 26

(8235 FOREST AVE.)

(8237 FOREST AVE.)

(111 RIDGE ROAD)

LOT 25 | LOT 26 | LOT 27 | LOT 28 | LOT 29

THOMAS L. KIRSCH ADD.
PLAT BOOK 59 PAGE 7

LOT 1

TAX ID. 45-06-24-126-028.000-027
THOMAS L. KIRSCH TRUST
WARRANTY DEED
DOC. NO 98048671
REC. 6/30/1998

S 89°03'32" E 74.64' (M)
49.28' (P)
25.72' (P)
75' (P)

S 00°21'36" W 184.74' (P&M)

N 80°02'00" W 133.62' (P&M)
N 80°02'00" W 76.09' (P)

32.18' (P)
25.36' (P)
25.36' (P)
25.36' (P)

RIM 618.24
(FULL OF DIRT)

RIM 617.
INV. 615.

RIM 618.07
S INV. 610.45
INV 610.05

RIM 620.98
INV. 619.72

RIM 621.06
W INV 619.16
S INV. 618.91

RIM 621.09
(LID BOLTED)

N. INV. 617.82
SW INV. 617.90

IRS
DVG

5/8"
IRF

CUT CROSS
FOUND

SAW CUT
CROSS
SET

SAW CUT
CROSS
SET

3"ø

WATER
VAULT
T/W @ 614.62

APPROX. 2" SERVICE

CAR WASH
SIGN

SIGN TO S.
SOUTH

CONCRETE
PLANTER

BRICK AND FRAME
BUILDING

6' WOOD FENCE
0.9' EAST

LANDSCAPE

MAGS
DVG

TRANSITION CURB FROM 6" TO 0"
WITHIN 2FT

6" PVC

6" VCP

8" VCP

12" RCP

SITE BENCHMARK
TOP OF SAW CUT CROSS
ELEV.=621.26 (NAVD88)

PLATTED OU RIGHT OF WAY

DVG TEAM INC
1155 Troutwine Road
Crown Point, IN 46307
P: (219) 662-7710
F: (219) 662-2740
www.dvgteam.com

REGISTERED
RUSSELL JACOB RISEEN
NO.
PE10910667
STATE OF
INDIANA
PROFESSIONAL ENGINEER

05/15/2025

Crew Carwash
11700 Exit 5 Parkway
Fishers, IN 46037

DATE:	REVISIONS AND NOTES:
02/02/24	ADDENDUM 1
07/12/24	ADDENDUM 3
02/20/25	ADDENDUM 4
04/14/25	ADDENDUM 5
05/15/25	ADDENDUM 6

111 Ridge Road Munster
Crew #63
Grading Plan

SCALE: 1" = 10'

DESIGN BY	DATE
RJP	11/10/23
PROJECT NO.	
22-0538	

C104

NOTES

1. ALL DRAIN TILES THAT ACTIVELY SERVICE OFF-SITE AREAS SHOULD BE TIED INTO THE PROPOSED STORMWATER MANAGEMENT SYSTEM. ALL DRAIN TILES DEEMED TO BE NON-FUNCTIONING OR ONLY SERVICE THE SUBJECT PROPERTY SHOULD BE REMOVED IN THEIR ENTIRETY. NO DRAIN TILES SHALL BE ABANDONED IN-PLACE.
2. FINAL LOCATION OF WATER SERVICE AND SANITARY SEWER STUBS TO BE LOCATED BY OWNER.
3. CONTRACTOR SHALL COORDINATE WITH MUNSTER PUBLIC WORKS PRIOR TO WATERMAIN CUT FOR TEE. CONTRACTOR TO SHUT OFF UPSTREAM & DOWNSTREAM VALVES PRIOR TO TEE INSTALL.

DVG TEAM INC
1155 Troutwine Road
Crown Point, IN 46307
P: (219) 662-7710
F: (219) 662-2740
www.dvgteam.com

RUSSELL JACOB REEEN REGISTERED NO. PE10910667 STATE OF INDIANA PROFESSIONAL ENGINEER

05/15/2025

Crew Carwash
11700 Exit 5 Parkway
Fishers, IN 46037

DATE:	REVISIONS AND NOTES:
02/02/24	ADDENDUM 1
03/04/24	ADDENDUM 2

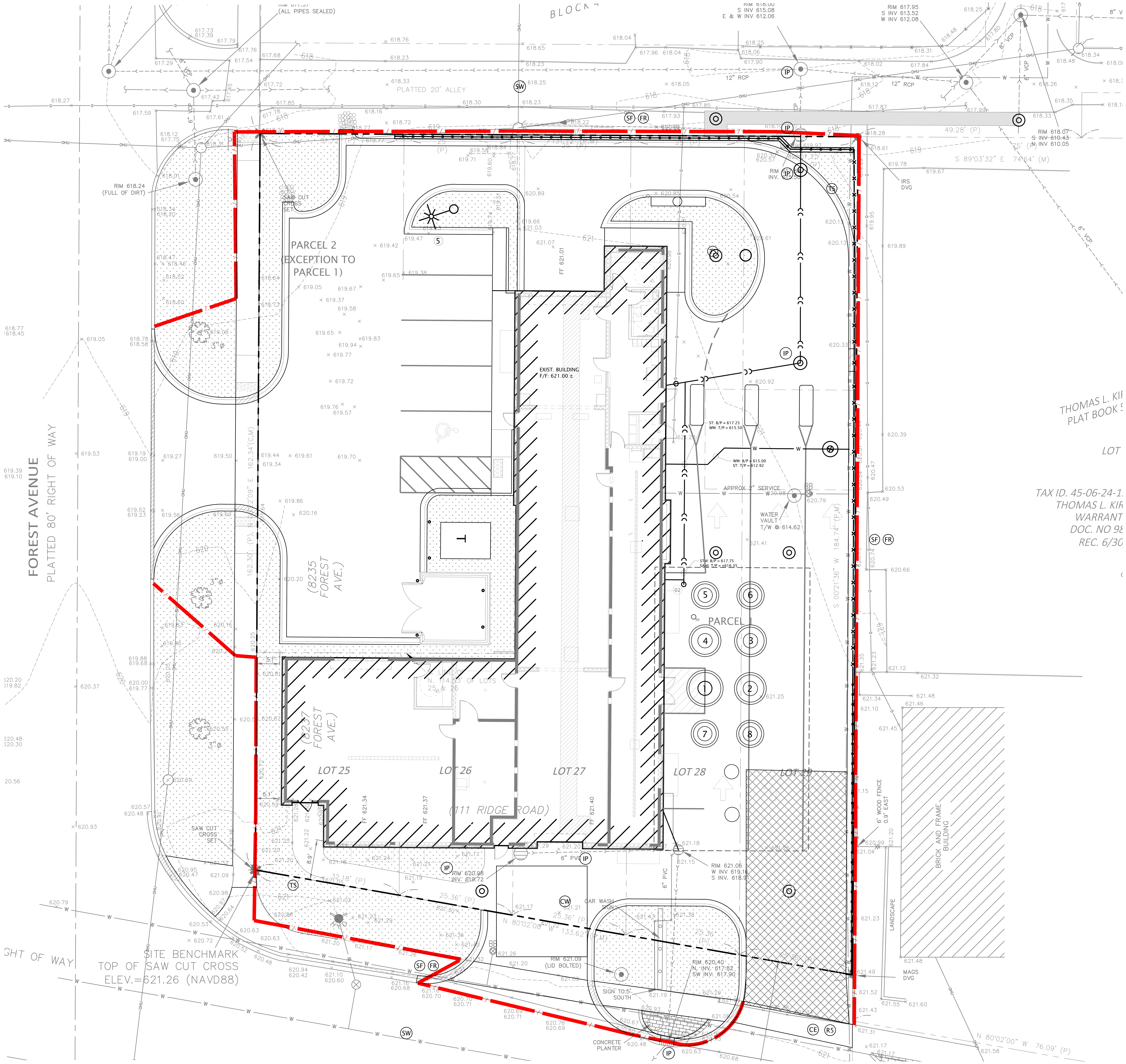
111 Ridge Road Munster
Crew #63

Utility Plan

SCALE: 1" = 10'

DESIGN BY	DATE
RJP	11/10/23
PROJECT NO.	
22-0538	

C105

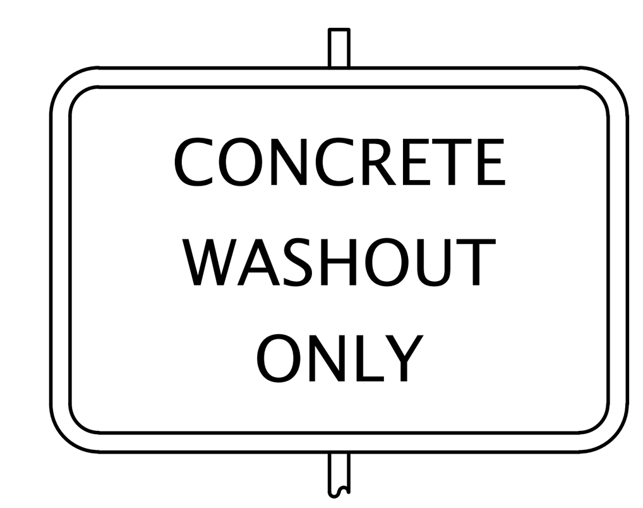


NOTES

1. THE SITE CONTRACTOR SHALL PROVIDE EROSION CONTROL MEASURES IN ACCORDANCE WITH THE STORMWATER POLLUTION PREVENTION PLAN DURING DEMOLITION AND CONSTRUCTION ACTIVITIES. MEASURES MUST BE IMPLEMENTED PRIOR TO BEGINNING CONSTRUCTION.
2. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE AND/OR CLEANING TO THE STRUCTURE OR FEATURE. CORRECTIVE WORK INCURRED BY THE CONTRACTOR SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT.
3. THE CONTRACTOR IS RESPONSIBLE FOR COMPLIANCE WITH THE S.W.P.P.P. ANY FINES OR PUNITIVE MEASURES INCURRED BY THE PROJECT DUE TO FAILURE TO COMPLY WITH THE S.W.P.P.P. ARE THE RESPONSIBILITY OF THE CONTRACTOR. THESE COSTS SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT AND SHALL NOT BE CONSIDERED AN EXTRA.
4. DURING THE COURSE OF CONSTRUCTION, THE LOCAL ENFORCEMENT OF THE S.W.P.P.P. MAY REQUIRE ADDITIONAL EROSION CONTROL MEASURES TO BE INSTALLED TO ADDRESS SITE-SPECIFIC ITEMS NOT ANTICIPATED BY THIS PLAN. THESE ITEMS ARE CONSIDERED AN EXTRA TO THE CONTRACT, BUT ONLY TO THE EXTENT OF INITIAL INSTALLATION. CORRECTIVE WORK AND MAINTENANCE SHALL BE CONSIDERED INCIDENTAL AND SHALL NOT BE CONSIDERED AN EXTRA.
5. THE SITE CONTRACTOR SHALL INSTALL THE CONSTRUCTION ENTRANCE AND PLACE PERIMETER SILT FENCING/FIBER ROLLS PRIOR TO COMMENCING ANY SOIL DISTURBANCE. SEE SITE PLAN FOR LOCATIONS. THE CONSTRUCTION ENTRANCE SHALL SERVE AS SITE ACCESS FOR ALL CONSTRUCTION TRAFFIC INGRESS AND EGRESS TO THE PROJECT SITE.
6. THE SOIL STOCKPILE SHALL BE PROTECTED BY SILT FENCE/FIBER ROLLS SURROUNDING THE PILE AND THE PILE SHALL BE TEMPORARILY SEEDED IF THE STOCKPILE REMAINS DORMANT FOR GREATER THAN 7 DAYS. THE PILE SHALL BE STABILIZED WITHIN 14 DAYS.
7. DURING SOIL-DISTURBING ACTIVITIES, THE CONTRACTOR SHALL CREATE DIVERSION SWALES AND INSTALL DITCH CHECKS SO THAT ALL SITE RUNOFF PASSES THROUGH AN EROSION CONTROL MEASURE PRIOR TO BEING DISCHARGED OFF-SITE.
8. UPON COMPLETION OF THE ROUGH GRADING, ALL AREAS AFFECTED BY CONSTRUCTION SHALL BE TEMPORARILY SEEDED IF THEY WILL REMAIN DORMANT FOR GREATER THAN 7 DAYS. THESE AREAS SHALL BE STABILIZED WITHIN 14 DAYS OF REMAINING DORMANT AND EROSION CONTROL BLANKETS SHALL BE INSTALLED ON SIDE SLOPES AS SHOWN ON THE PLANS.
9. CONTRACTOR SHALL PERFORM STREET SWEEPING WHENEVER TRACKING OF MUD, DIRT, AND CONSTRUCTION DEBRIS OCCURS ON THE PUBLIC ROAD.

LEGEND

(CE)	TEMPORARY CONSTRUCTION ENTRANCE	▨
(IP)	INLET BARRIER PROTECTION	
(TS)	TEMPORARY/PERMANENT SEEDING	
(SF) (FR)	SILT FENCE/FIBER ROLLS (MAY BE USED INTERCHANGABLY WHERE REQUIRED)	— / ———
(SW)	STREET SWEEPING	
(CW)	CONCRETE WASHOUT	
(RS)	BUILDING & STORMWATER PERMITS	



CONCRETE WASHOUT SIGNAGE

TOTAL DISTURBANCE AREA = 0.52 ac

DVG TEAM INC
1155 Troutwine Road
Crown Point, IN 46307
P: (219) 662-7710
F: (219) 662-2740
www.dvgteam.com

[illegible]

RUSSELL JACOB POZEN
REGISTERED
NO.
PE10910667
STATE OF
INDIANA
PROFESSIONAL ENGINEER

05/15/2025

Crew Carwash
11700 Exit 5 Parkway
Fishers, IN 46037

DATE:	REVISIONS AND NOTES:

111 Ridge Road Munster
Crew #63

Storm Water Pollution Prevention Plan

N
0' 5' 10'
SCALE: 1" = 10'

DESIGN BY	DATE
RJP	11/10/23
PROJECT NO. 22-0538	
C106	

SITE DEVELOPMENT
COMMON EXCAVATION AND EARTHWORK
GENERAL SPECIFICATIONS

A Geological Investigation report by the OWNER shall be considered a part of this plan set.

1.0 Quality Assurance:
1. Contractor shall notify the Construction Manager, Architect, Engineer and testing laboratory inspector when common excavation and earthwork is scheduled. Earthwork operations which require inspecting and testing by testing laboratory inspector shall not be performed unless testing laboratory inspector is present.
2. Contractor shall provide a 1-year warranty against settlement and damage caused by settlement for common excavation and earthwork.
3. If settlement occurs within 1 year after the date of Substantial Completion, the Contractor shall remove the affected surface feature, provide additional suitable fill, thoroughly compact and restore the surface feature to its original undisturbed condition.

2.0 Testing:
1. An inspector from the Owner's soils testing laboratory shall, during the common excavation work operations, provide the following services:
   a. Test & Classify on-site excavated soils for reuse as topsoil, common site fill, embankment fill and structural fill.
   b. Test materials furnished from any off-site sources to verify compliance with specified requirements.
   c. Observe proofing rolling of exposed subsoil in areas where grades will be raised and provide recommendations for soil correction to ensure that unstable materials have been removed.
   d. Inspect placement and compaction of common site fill, embankment fill and structural fill to ensure the material being compacted is in accordance with specified requirements. For each lift, a minimum of 1 density test for every 10,000 square feet of lawn surface area, and 5,000 square feet of paved surface area, and 500 square feet of proposed building area is required.
   e. Density tests are required for all subgrade/subsoil in areas that have been cut to rough grade elevations, after soils have been compacted to ensure soil compaction density is in accordance with the specified requirements. Test frequency shall be as described above in sub-paragraph 1.d..
2. Tests and analysis of fill materials shall be performed in the laboratory in accordance with ASTM D1557.
3. Testing shall be performed as directed by the Soils Report Engineer. Compaction Testing shall be performed in accordance with ASTM D2922 and D3017.

3.0 Special Weather Protection:
1. Construction shall be limited during cold weather to prevent the formation of frost and snow accumulation to occur in materials used for site fill or in soils where site excavation is taking place. All areas that are scheduled for excavation activity shall be protected from freezing and snow accumulation. Any frozen material shall be removed and disposed of off site.

4.0 Clearing & Grubbing:
1. Contractor shall provide all clearing, grubbing, removal and disposal of all vegetation and debris related to the existing site conditions.
2. Vegetation debris shall be removed from site and transported to a local and state authorized disposal sites.

5.0 Top Soil Stripping:
1. The project has a depth of topsoil variation throughout the site. The geotechnical report shows the topsoil depths at several locations throughout the project site. The Contractor shall strip and stockpile all topsoil at the location designated in the Site Development Drawings or as directed by the owner.
2. Topsoil removal material shall consist of fertile, friable, organic surface soil stripped from the site and shall be free of subsoil, brush, turf grasses, weeds, roots, stumps, stones larger than 1-inch in diameter and other contaminated matter."
3. Topsoil shall be stockpiled so that it may be reused and re-spread on site over Lawn and Landscaped areas.
4. The topsoil stockpile area shall be properly protected against soil erosion into the adjacent drainage system.

6.0 Borrow Material/Embankment & Structural Fill Material:
1. Borrow material for structural fill shall be first excavated from on site source locations as defined by the Soils Report Engineer.
2. Structural fill material shall be placed under all utility trench corridors, building pad locations, paved parking, driveway, sidewalk and roadway areas.
3. Common site and embankment fill shall be placed under lawn, landscape and detention pond areas.
4. Maintain moisture content of structural fill within plus or minus 3 percent of the optimum moisture content as determined by the Modified Proctor Test.
5. Contractor shall provide subgrade conditions meeting the design grades for pavements, exterior walks, curbs and building pads.
6. Contractor shall only place approved fill material under proposed building pads and parking areas
7. Contractor shall undercut any areas that do not meet the requirements for structural fill and shall replace with structural fill.

7.0 Excavation:
1. Protect all existing natural features on site.
2. Install soil erosion prevention measures in accordance with local and state ordinances and in accordance with the soil erosion control project drawings.
3. All proposed contours shown on this set of plans are proposed surface elevation. All fill shall be placed as structural fill for buildings and parking lots.
4. Prior to excavation an on-site Pre-construction Meeting shall be held between the Engineer, Owner/Owner's Representative and General Contractor to discuss earthwork protocol.
5. During the progress of the work, if subsurface or latent physical conditions are encountered at the site differing materially from those indicated in the contract or if ordinarily encountered at the site, the party discovering such conditions shall promptly notify the Owner/Owner's Representative/General Contractor and the Engineer in writing of the specific differing conditions. Upon written notification, the Engineer and Owner/Owner's Representative/General Contractor will investigate the conditions, and determine if adjustments to the Construction Documents and/or to the Contract are warranted. No contract adjustment which results in a benefit to the Contractor will be allowed unless the Contractor has provided the required written notice of a changed condition.

8.0 Compaction:
1. Exercise care when compacting exposed soils relative to water table, rain or other moisture conditions.
2. Maintain moisture content of embankment material and structural fill material near optimum as recommended by the soils testing laboratory and Soil Boring Engineer. Maintain optimum moisture content of backfill and fill material to attain the required compaction density.
3. Backfill common site fill, embankment fill, structural fill and utility trenches to contours and elevations defined on the project site development plans.
4. Systematically backfill to allow maximum time for optimum compaction and do not backfill over porous, wet or spongy subgrade surfaces.
5. Employ a soils placement and compaction method that does not disturb or damage work performed and that maximizes soil compaction.
6. All common site, embankment and structural fill shall be place and compacted in continuous layers/lifts not exceeding 8-inches loose depth.
7. Compact subsoil for structural fill to 95% of the Modified Proctor Maximum Dry Density (ASTM D1557) beneath all building pad locations.
8. Compact subsoil for structural fill to 95% of Modified Proctor Maximum Dry Density (ASTM D1557) beneath all pavement areas and utility corridor trenches.
9. Compact subsoil for common site fill and embankment fill to 90% of the Modified Proctor Maximum Dry Density (ASTM D1557) beneath all lawn, landscape and detention pond areas.
10. Compact subsoil under building pad area to achieve soil-bearing capacities of 3,000 psf at a distance of 4-feet below the proposed finish floor elevations of all building ads.
11. If tests indicated work does not meet specified requirements, all sub-standard work shall be immediately removed, replaced and retested at no expense to the Owner.

GENERAL NOTES

1. Town of Munster, DVG Team, Inc. (Engineer) and any Utility Company affected must be notified at least two working days prior to commencement of work. Prior to construction the contractor is to call INDIANA 811.

2. Elevation Datum is U.S.G.S.

4. The locations of existing underground utilities, such as water mains, sewer, gas lines, etc., as shown on the plans have been determined from the best available information and is given for the convenience of the contractor. However, the engineer and the owner do not assume responsibility for the accuracy of the locations shown. It shall be the responsibility of the contractor to contact all utility companies and their facilities shall be located prior to commencement of any work.

5. Wherever obstructions not shown on the plans are encountered during the progress of the work and interfere to such an extent that alteration in the plans is required, the engineer shall be notified prior to any changes and any changes shall only be as approved via written instruction by the Engineer and the local Municipal Engineer.

6. As-built drawings shall be prepared by the contractor and submitted to the engineer as soon as the project is completed. Any change in the length, location or alignment shall be shown in red. "AS BUILT" drawings shall be forwarded to the appropriate utility organizations. Four (4) copies shall be submitted to the Municipal Engineer.

7. All proposed sanitary sewer, storm sewer, water main and service lines under and within 2' of pavement, curbs, and sidewalk shall be backfilled with crushed limestone (INDOT #53) or material consistent with Class I or II material as described in ASTM D2321 placed in 8" maximum layers and mechanically compacted to 95% modified proctor density. Slag is not permitted.

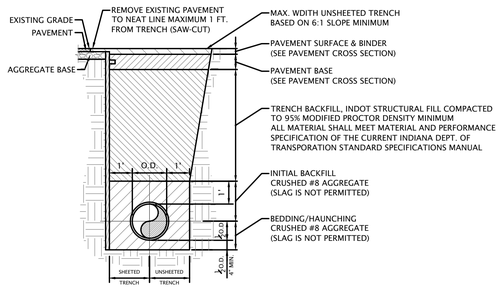
8. Materials used for water, sanitary sewer, storm sewer and streets shall conform to the Town of Munster standards and specifications.

9. Any existing public improvements (sidewalks, curb and gutter, etc.), disturbed during construction shall be replaced in kind, or per current of Town of Munster specifications as directed by the Municipal Engineer.

10. All public street construction shall meet performance standards of the current edition of the Indiana Department of Transportation Standard Specifications.

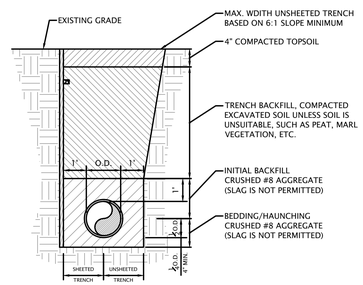
11. Street signage shall be included in accordance with the MUTCD requirements applicable at the time of construction.

12. The Owner/General Contractor shall be responsible for any and all utility new customer form submissions. Utility company review typically cannot begin until all new customer forms have been submitted.



PIPE BEDDING/TRENCH BACKFILL
(NOT TO SCALE)

FOR TRENCH IN PAVEMENT AREAS



PIPE BEDDING/TRENCH BACKFILL
(NOT TO SCALE)

FOR TRENCH IN GRASS/LANDSCAPED AREAS

DVG TEAM INC
1155 Troutwine Road
Crown Point, IN 46307
P: (219) 662-7710
F: (219) 662-2740
www.dvgteam.com

RUSSELL JACOB ROSEN REGISTERED NO. PE10910567 STATE OF INDIANA PROFESSIONAL ENGINEER

11/17/2023

Crew Carwash
11700 Exit 5 Parkway
Fishers, IN 46037

DATE:	REVISIONS AND NOTES:

111 Ridge Road Munster
Crew #63
Construction Details

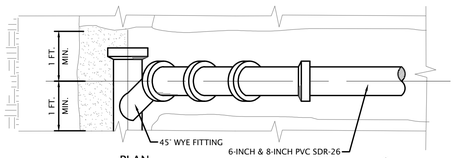
NO SCALE

DESIGN BY	DATE
DVG	05/19/23
PROJECT NO.	
22-0538	

C201

SANITARY SEWER GENERAL NOTES

1. All Floor Drains shall discharge to the sanitary sewer.
2. Sanitary sewer pipe shall be PVC (SDR 26) ASTM D-3034 with push-on rubber gasket joints and shall be in accordance with ASTM C-3212, unless otherwise noted on the plans for portions to be PVC (SDR 21).
3. All sanitary sewer manholes shall be air tested for leaks in accordance with ASTM C1244-93 and Standard Test Method for Concrete Sewer Manholes by Negative Air Pressure (Vacuum) Test.
4. Where ductile iron pipe is used for sanitary sewer, the pipe shall be in accordance with ANSI A-21.51 and the joints in accordance with ANSI A-21.11.
5. A deflection test shall be performed on each flexible pipe following the elapse of thirty (30) days after the placement of the final backfill. No pipe shall exceed a deflection of five percent (5%) or greater. The diameter of the rigid ball or mandrel used for a deflection test shall be no less than ninety-five percent (95%) of the base inside diameter of the pipe to be tested dependent on what is specified in the corresponding ASTM standard. The test shall not be performed with the aid of a mechanical pulling device.
6. A leakage test shall be performed using one of the following leakage test types.
   a.) A hydrostatic test shall be performed with a minimum of two (2) feet of positive head. The rate of exfiltration or infiltration shall not exceed two hundred (200) gallons per inch of pipe diameter per linear mile per day.
   b.) An air test shall conform to ASTM F1417-92, Standard Test Method for Installation Acceptance of Plastic Gravity Sewer Lines Using Low-Pressure Air, for plastic pipe.
7. All sanitary sewer shall be inspected by [MUNICIPALITY'S PUBLIC WORKS OR WASTEWATER DEPARTMENT].

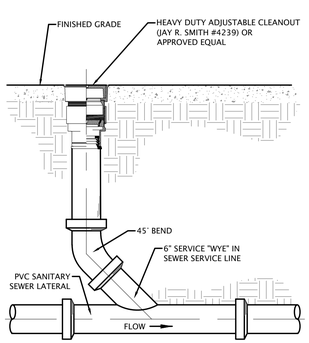


NOTES:

1. RISERS TO BE CONSTRUCTED IN LIEU OF WYES WHERE SEWER DEPTH EXCEEDS 10 FEET. FOR PIPE MATERIAL AND CONCRETE, SEE SPECIFICATIONS.
2. ALL SANITARY SEWER SERVICE LATERALS SHALL BE PLUGGED WITH A WATERTIGHT CAP AND SHALL BE LOCATED WITH 4-INCH x 4-INCH WOOD MARKERS TO IDENTIFY LATERAL END.

SANITARY SEWER SERVICE

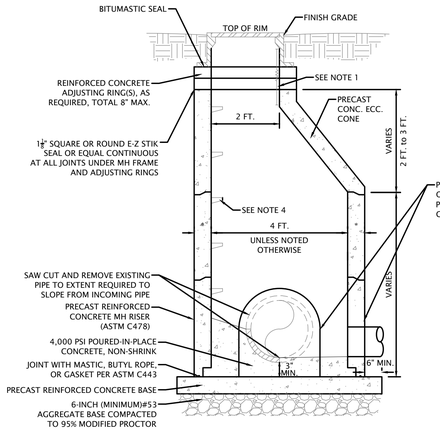
(NOT TO SCALE)



SANITARY CLEANOUT

(NOT TO SCALE)

CLEANOUT REQUIRED 2' TO 5' FROM BUILDING AND AT 100' INTERVALS ALONG SEWER SERVICE, AS MEASURED FROM SEWER MAIN



DOG HOUSE MANHOLE

(NOT TO SCALE)

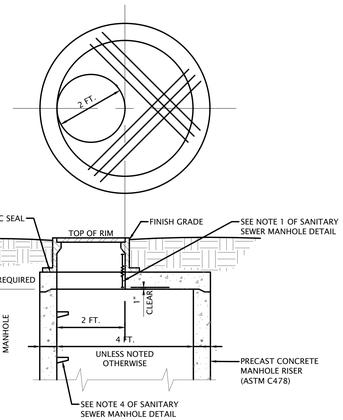
INLET MANHOLE (IMH) USES AN OPED LID - SEE STORM CALLOUT FOR FRAME & LID TYPE
MANHOLE (MH) USES A CLOSED LID - SEE STORM CALLOUT FOR FRAME & LID TYPE.

* STRUCTURE WALL THICKNESS TABLE

MH I.D.	WALL THICKNESS
36"	4"
48"	5"
60"	6"
72"	7"

NOTES:

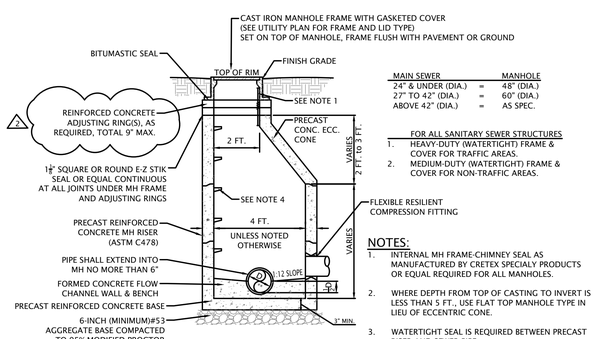
1. EXTERNAL MH FRAME-CHIMNEY SEAL AS MANUFACTURED BY CRETEX SPECIALY PRODUCTS OR EQUAL REQUIRED FOR ALL MANHOLES IN PAVED AREAS ONLY.
2. WHERE DEPTH FROM TOP OF CASTING TO INVERT IS LESS THAN 5 FEET, USE FLAT TOP MANHOLE TYPE "C" IN LIEU OF ECCENTRIC CONE.
3. WATERTIGHT SEAL IS REQUIRED BETWEEN PRECAST RISER AND SEWER PIPE.
4. CO-POLYMER/STEEL MH STEPS AS MANUFACTURED BY M.A. INDUSTRIES OR EQUAL, AT 16 INCHES O.C. (MAX.).
5. CONTRACT UNIT PRICE FOR ALL STRUCTURES SHALL INCLUDE THE FRAME AND GRATE SPECIFIED.



MANHOLE TOP (FLAT TOP)

(NOT TO SCALE)

USED WHERE RESTRICTED HEAD ROOM WILL NOT ALLOW FOR TAPERED WALLS
SEE SANITARY MANHOLE NOTES



MAIN SEWER		MANHOLE
24" & UNDER (DIA.)	=	48" (DIA.)
27" TO 42" (DIA.)	=	60" (DIA.)
ABOVE 42" (DIA.)	=	AS SPEC.

FOR ALL SANITARY SEWER STRUCTURES
1. HEAVY-DUTY (WATERTIGHT) FRAME & COVER FOR TRAFFIC AREAS.
2. MEDIUM-DUTY (WATERTIGHT) FRAME & COVER FOR NON-TRAFFIC AREAS.

NOTES:

1. INTERNAL MH FRAME-CHIMNEY SEAL AS MANUFACTURED BY CRETEX SPECIALY PRODUCTS OR EQUAL REQUIRED FOR ALL MANHOLES.
2. WHERE DEPTH FROM TOP OF CASTING TO INVERT IS LESS THAN 5 FT., USE FLAT TOP MANHOLE TYPE IN LIEU OF ECCENTRIC CONE.
3. WATERTIGHT SEAL IS REQUIRED BETWEEN PRECAST RISER AND SEWER PIPE.
4. CO-POLYMER/STEEL MH STEPS AS BY M.A. INDUSTRIES OR EQUAL, AT 16" O.C. (MAX.)
5. CONTRACT UNIT PRICE FOR STRUCTURES SHALL INCLUDE THE FRAME AND GRATE SPECIFED.

** FOR PIPE SIZES RANGING FROM 8" TO 30" IN DIAMETER

* MANHOLE WALL THICKNESS TABLE

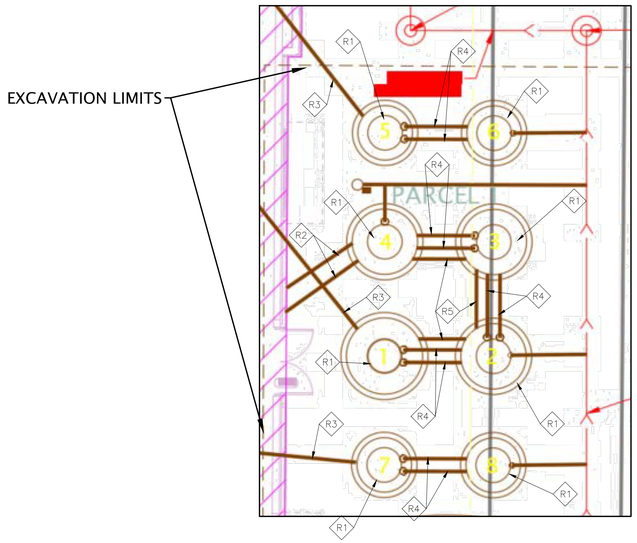
MH I.D.	WALL THICKNESS
48"	5"
60"	6"
72"	7"

SANITARY SEWER MANHOLE

(NOT TO SCALE)

WATER RECLAIM SYSTEM (GRIT PIT) STRUCTURE TABLE - ELEVATIONS
LISTED BELOW ARE RELATIVE TO FFE = 621.00

STRUCTURE NUMBER	STRUCTURE DIAMETER (INCHES)	PROVIDED STORAGE (CU. FT.)	PROVIDED STORAGE IN* (US GAL.)	INVERT IN (FEET)	INVERT OUT (FEET)	SUMP (FEET)	SUBGRADE (FEET)	RIM ELEVATION (FEET)
1	84	298.25	2230	616.00	615.75	608.00	607.50	SEE GRADING PLAN
2	72	212.06	1586	615.25	615.00	608.00	607.50	SEE GRADING PLAN
3	72	205.00	1533	615.50	615.25	608.00	607.50	SEE GRADING PLAN
4	72	197.92	1480	615.25	615.00	608.00	607.50	SEE GRADING PLAN
5	60	142.35	1065	615.25	615.00	608.00	607.50	SEE GRADING PLAN
6	60	137.40	1028	615.00	614.75	608.00	607.50	SEE GRADING PLAN
7	60	137.40	1028	615.50	615.25	608.00	607.50	SEE GRADING PLAN
8	60	132.54	991	615.25	615.00	608.00	607.50	SEE GRADING PLAN



WATER RECLAIM SYSTEM KEYNOTE LEGEND

- R1 ACCESS RISER AND OPERATING 38" DIAMETER STEEL PLATE LID, MODEL PER OWNER SPECIFICATIONS. STRUCTURE TOP TO HAVE A 36" DIA OPENING CAST.
- R2 8" PVC SCH 40 TO RECLAIM PIT
- R3 8" PVC SCH 80 CONVEYOR TRENCH DRAIN. CONVEYOR TRENCH DRAINS MUST BE RUN STRAIGHT WITH NO TURNS
- R4 8" PVC CONNECTOR TO SLEEVES, REFER TO TABLE FOR INVERT ELEVATIONS
- R5 4" PVC CONNECTOR TO SLEEVES, REFER TO TABLE FOR INVERT ELEVATIONS

NOTE: REFER TO STRUCTRAL PLAN FOR CONNECTION INTO TUNNEL TRENCH

WATER RECLAIM SYSTEM AND GRIT PIT

(NOT TO SCALE)

DVG TEAM INC
1155 Troutwine Road
Crown Point, IN 46307
P: (219) 662-7710
F: (219) 662-2740
www.dvgteam.com

RUSSELL JACOB ROSEN REGISTERED NO. PE10910567 STATE OF INDIANA PROFESSIONAL ENGINEER

03/04/2024

Crew Carwash
11700 Exit 5 Parkway
Fishers, IN 46037

DATE:	REVISIONS AND NOTES:
03/04/24	ADDENDUM 2

2

111 Ridge Road Munster
Crew #63
Construction Details

NO SCALE

DESIGN BY	DATE
DVG	05/19/23
PROJECT NO.	
22-0538	

C202

WATERMAIN GENERAL NOTES

1. All water mains, fittings, and valves shall be ductile iron cement lined pressure class 350 with rubber gasket push-on joints in accordance with ANSI A-21.51 & AWWA C 151 and be Polyethylene Encased per IAC 8-3.2-8. Polyethylene encasement shall be AWWA C105 Low Density, 8 mil thickness and is required on all ductile iron watermain. Water main joints shall conform to the requirements of AWWA C 111. Mechanical joints shall be restrained and shall use Meg-A-Lug as manufactured by EBAA Iron Sales (or equal). Watermain may be PVC C900, DR 18 only if noted on the plans.

2. Water mains shall be laid at least 10' horizontally from any existing or proposed sanitary sewer, storm sewer, sewer manhole, drain or service connection as measured from outside edge of the water main to outside edge of the sewers or manhole. If local conditions prevent horizontal separation of 10 feet, then the SEWER SHALL BE CONSTRUCTED OF WATER MAIN QUALITY REQUIREMENTS as specified in the IAC 8-3.2 Sections 8, 9 and 17(a).

3. When water mains cross any existing or proposed sanitary or storm sewers (sewers), there shall be at least 18 inches vertical separation between the outside edge of the water main and the outside edge of the sewer. This shall be the case where water mains cross above or below sewers. This crossing must be at a minimum angle of forty-five (45) degrees measured from the centerline of each. All these conditions specified shall be maintained for a minimum distance of ten (10) feet from either side of the water main. If vertical separation specified herein cannot be met, then the SEWER SHALL BE CONSTRUCTED OF WATER MAIN QUALITY REQUIREMENTS as specified in the IAC 8-3.2 Sections 8, 9 and 17(a).

4. Per Town of Munster Infrastructure Specifications, Originally Adopted - May 2, 1994 Lastest Amendment August 18, 2003, sewer passing over or under watermains should be constructed of materials and with joints that are equivalent to water main standards of construction. Adequate structural support for the sewers to prevent excessive deflection of joints and setting on the breaking and watermains. The length of the watermain quality sewer pipe is to be centered at the point of crossing so that the joints will be adjusted and as far as possible from the watermain. 2

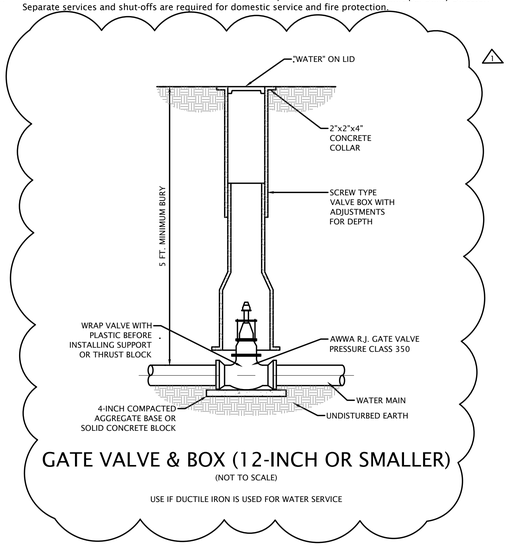
5. For additional separation requirements between water mains and sewers, the Contractor shall refer to the Indiana Administrative Code 327 IAC 8 and IAC 3.

6. All water main shall be installed in accordance with IAC 8-3.2-17. The contractor shall provide pressure and leak testing results conforming to IAC 8-3.2-17(a).

7. All water main shall be disinfected in accordance with IAC 8-3.2-18.

8. Water services shall be installed as required at the time of individual lot development. Service sizes to be determined by building requirements.

9. Water services shall have an outside shut-off valve located per the direction of the Municipal Utility Director. Separate services and shut-offs are required for domestic service and fire protection.



GATE VALVE & BOX (12-INCH OR SMALLER)

(NOT TO SCALE)

USE IF DUCTILE IRON IS USED FOR WATER SERVICE

RESTRAINED PIPE LENGTH
(FEET)

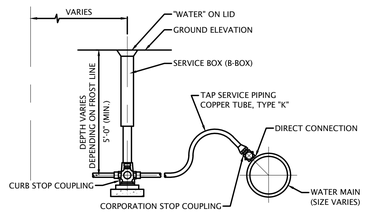
PIPE SIZE (INCHES)	TEE* BRANCH	90° ELBOW	45° ELBOW	22 1/2° ELBOW	11 1/4° ELBOW	DEAD ENDS
4	0	15	6	3	2	20
6	9	22	9	4	2	28
8	18	27	11	5	3	37
10	25	33	14	7	3	44
12	33	39	16	8	4	52
14	41	44	18	9	4	60
16	48	50	21	10	5	68
18	56	55	23	11	5	75
20	63	61	25	12	6	82
24	77	71	29	14	7	96
30	97	86	36	17	8	116
36	116	100	41	20	10	135

* ONE FULL LENGTH (18') OF PIPE ON BOTH SIDES OF BRANCH TO BE RESTRAINED.

INCREASE ALL LENGTHS IN TABLE BY 75% FOR USE ON POLYETHYLENE WRAPPED DUCTILE IRON PIPE OR PVC PIPE.

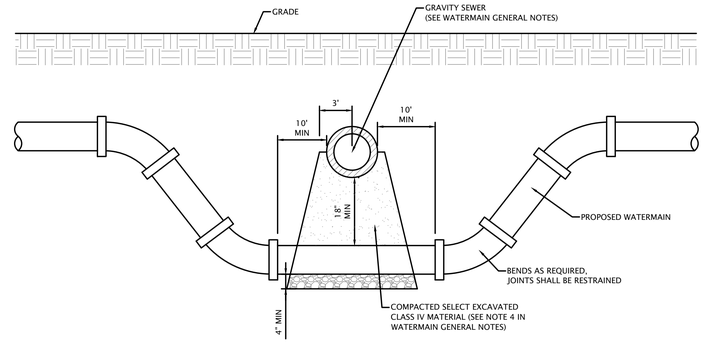
TEST PRESSURE BASED ON 150 PSI.

RESTRAINED PIPE LENGTH TABLE



TYPICAL B-BOX & TAP SERVICE PIPING

(NOT TO SCALE)



SANITARY/STORM SEWER & WATERMAIN CROSSING

(NOT TO SCALE)

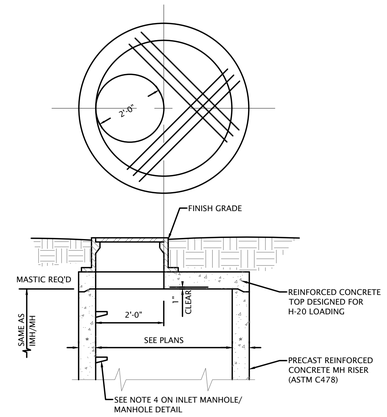
STORM SEWER GENERAL NOTES

1. Footing drains, sump pump drains and outside drains shall discharge to the storm sewer where storm sewer is provided.

2. The maximum allowable rate of infiltration or exfiltration shall not exceed 100 gallons, per 24 hours per inch-diameter per mile of sewer pipe.

3. Storm sewers shall be as noted on the plans. If approved by the Engineer, an alternative storm sewer pipe 12 inches and larger can be reinforced concrete minimum Class III, wall B conforming to ASTM C-76; Corrugated High-Density Polyethylene Pipe with smooth interior (ADS N-12) conforming to AASHTO M-294; Corrugated Polypropylene Pipe with smooth interior conforming to AASHTO M-330 (ADS HP STORM); Corrugated High-Density Polyethylene Pipe with smooth interior (PRINSCO, GOLDFLO) conforming to AASHTO M-294 or other INDOT, Type 2 storm sewers as approved by the Engineer.

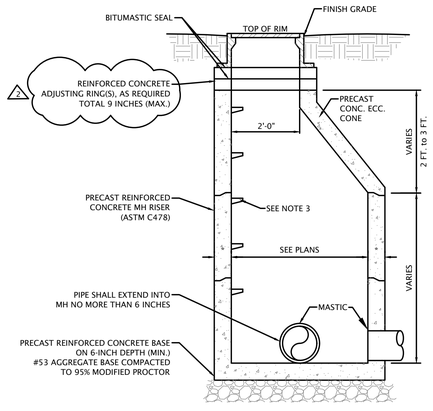
4. All HDPE storm sewer pipe shall be tested with a mandrel. Maximum deflection shall meet ASTM C1244-93 and Standard Test Method for Concrete Sewer Manholes 30 days after backfill, and should be performed without the aid of a mechanical pulling device. The deflection testing shall meet all requirements of IDEM section 327 IAC 3-6-19(a) (b) (c).



MANHOLE TOP (FLAT TOP)

(NOT TO SCALE)

USE WHERE RESTRICTED HEAD ROOM WILL NOT ALLOW FOR TAPERED WALLS



INLET MANHOLE/MANHOLE

(NOT TO SCALE)

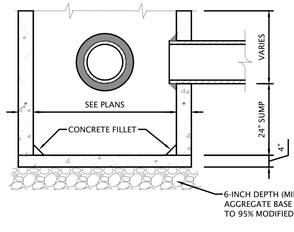
INLET MANHOLE (IMH) USES AN OPED LID - SEE STORM CALLOUT FOR FRAME & LID TYPE
MANHOLE (MH) USES A CLOSED LID - SEE STORM CALLOUT FOR FRAME & LID TYPE.

* STRUCTURE WALL THICKNESS TABLE

MH I.D.	WALL THICKNESS
36"	4"
48"	5"
60"	6"
72"	7"

NOTES:

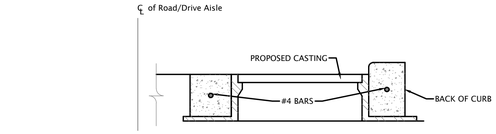
1. WHERE DEPTH FROM TOP OF CASTING TO INVERT IS LESS THAN 5 FEET, USE FLAT TOP MANHOLE TYPE "C" IN LIEU OF ECCENTRIC CONE.
2. WATERTIGHT SEAL IS REQUIRED BETWEEN PRECAST RISER AND SEWER PIPE.
3. CO-POLYMER/STEEL MH STEPS AS MANUFACTURED BY M.A. INDUSTRIES OR EQUAL, AT 16 INCHES O.C. (MAX.).
4. CONTRACT UNIT PRICE FOR ALL STRUCTURES SHALL INCLUDE THE FRAME AND GRATE SPECIFIED.



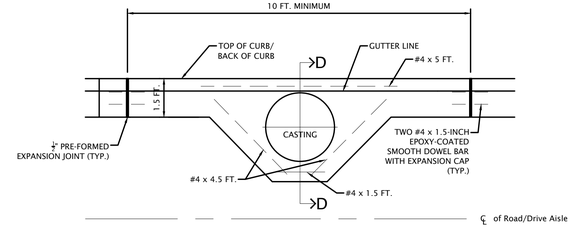
CATCH BASIN

(NOT TO SCALE)

SEE INLET MANHOLE/MANHOLE DETAIL
CATCH BASIN USES EITHER CLOSED OR OPEN LIDS - SEE UTILITY PLAN FOR FRAME & LID TYPE.



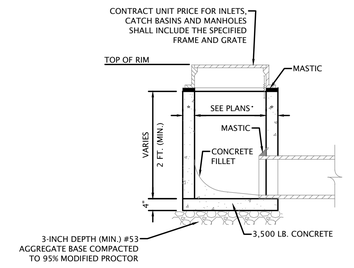
SECTION D-D



CURB & GUTTER AT STRUCTURE

(NOT TO SCALE)

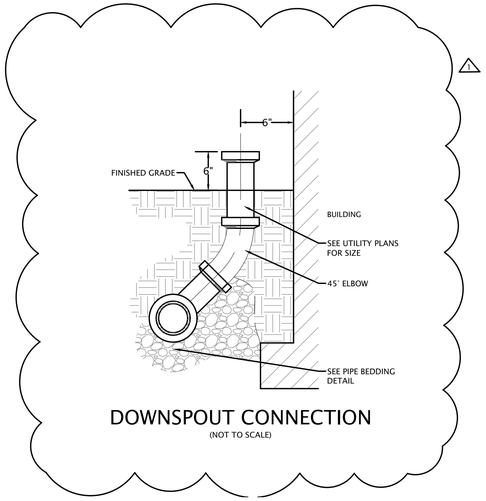
CONTRACT UNIT PRICE FOR INLETS, CATCH BASINS AND MANHOLES SHALL INCLUDE THE SPECIFIED FRAME AND GRATE



INLET

(NOT TO SCALE)

INLET USES OPEN LIDS - SEE UTILITY PLAN FOR FRAME & LID TYPE.



DOWNSPOUT CONNECTION

(NOT TO SCALE)

DVG TEAM INC
1155 Troutwine Road
Crown Point, IN 46307
P: (219) 662-7710
F: (219) 662-2740
www.dvgteam.com

RUSSELL JACOB DVG REGISTERED NO. PE10910567 STATE OF INDIANA PROFESSIONAL ENGINEER

03/04/2024

Crew Carwash
11700 Exit 5 Parkway
Fishers, IN 46037

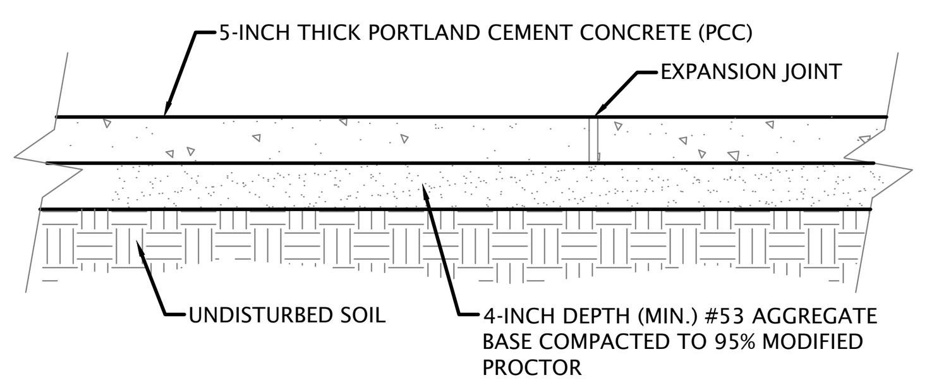
DATE:	REVISIONS AND NOTES:
02/02/24	ADDENDUM 1
03/04/24	ADDENDUM 2

111 Ridge Road Munster
Crew #63
Construction Details

NO SCALE

DESIGN BY	DATE
DVG	05/19/23
PROJECT NO.	
22-0538	

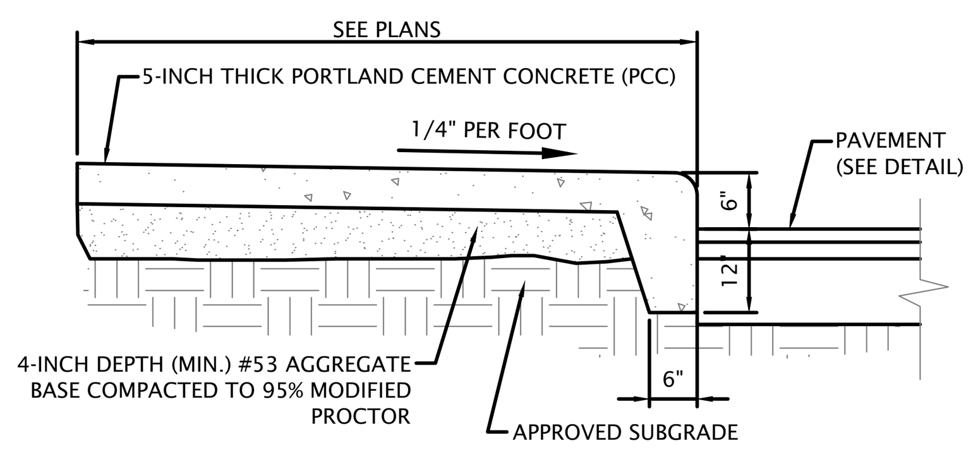
C203



SIDEWALK
(NOT TO SCALE)

¼-INCH WIDE CONSTRUCTION TOOLED JOINT SPACED AT A DISTANCE EQUAL TO THE WIDTH

2 NOTES:
1. SIDEWALKS CROSSING DRIVEWAYS SHALL BE SEVEN INCHES (7") THICK AND REINFORCED WITH 6"X6", TEN (10) GA., WELDED WIRE REINFORCING.



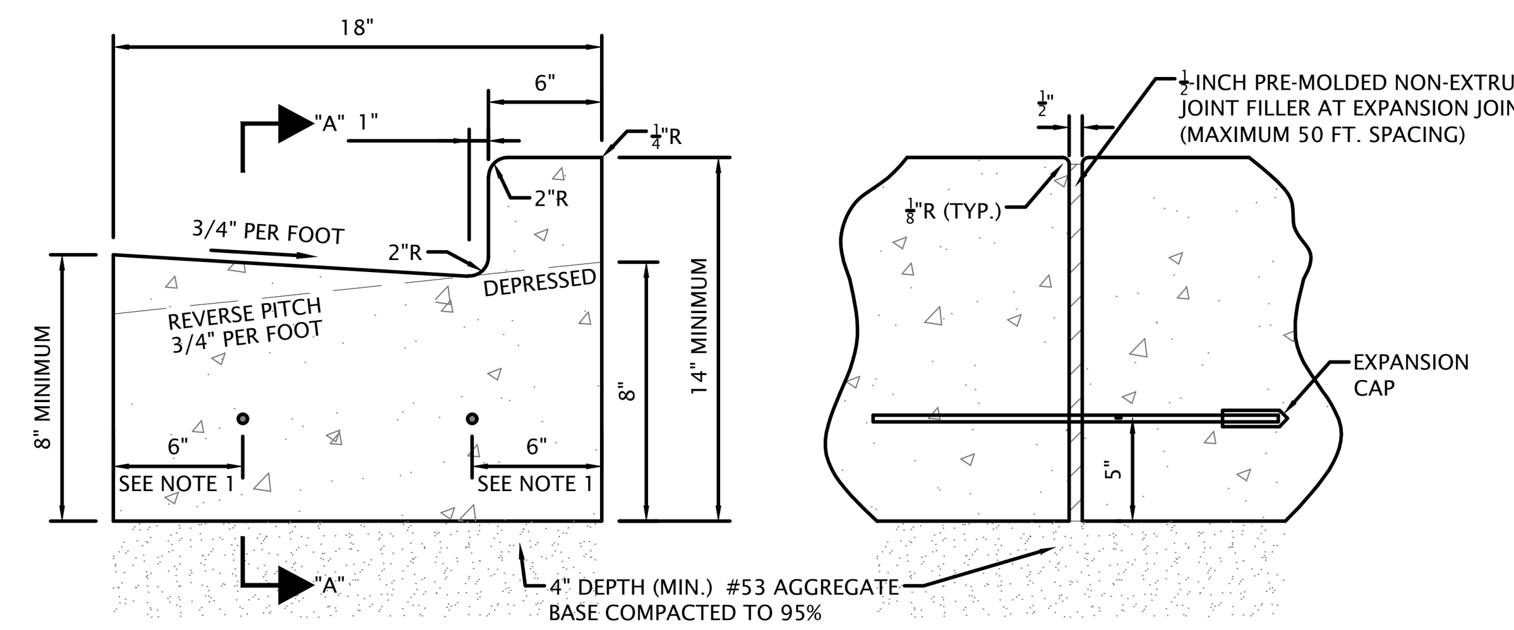
MONOLITHIC CURB & SIDEWALK
(NOT TO SCALE)

CONCRETE FLAT WORK NOTES:

1. PROVIDE ¾-INCH EXPANSION JOINT CONFORMING TO ASTM D-1751 ALONG BACK OF CURBS, DRIVEWAYS, STEPS, WALLS AND ACROSS THE SIDEWALK AT INTERVALS NOT TO EXCEED 40 FEET.
2. EXTEND EXPANSION JOINT MATERIAL FULL DEPTH OF THE SLAB.
3. PROVIDE TOOLED "V-GROOVE" CONTROL JOINT SPACED AT A DISTANCE EQUAL TO THE WIDTH OF THE WALK BUT NOT OVER 10 FEET APART, OR AS SPECIFIED ON THE SITE PLAN.
4. CONCRETE SHALL BE CLASS "A" & 4,500 PSI IN 28 DAYS; MEETING THE REQUIREMENTS OF THE MOST RECENT INDOT STANDARD SPECIFICATIONS MANUAL.
5. ALL CONCRETE FLAT WORK SHALL BE REINFORCED WIRE MESH 6"x6"x W2.9XW2.9 WWF

CONCRETE CURB & GUTTER NOTES

1. PROVIDE TWO #4 BARS (10 FT. LONG) CENTERED IN EACH UTILITY TRENCH.
2. PROVIDE TWO #6 SMOOTH BARS WITH EXPANSION CAPS AT EACH EXPANSION JOINT.
3. COST OF BARS SHALL BE INCLUDED IN THE UNIT PRICE (PER LINEAR FOOT) FOR CURB AND GUTTER.
4. CONTRACTION JOINTS SHALL BE PLACED AT EQUAL SPACES BETWEEN NORMAL EXPANSION JOINTS.
5. ½" EXPANSION JOINTS AT 50 FEET MAXIMUM.
6. CONTRACTION JOINTS AT 20 FEET MAXIMUM.
7. CONTRACTION JOINTS SHALL BE SAW CUT IN THE UPPER ⅓ OF CURB AND GUTTER WITHIN 7 DAYS OF PLACEMENT
8. SAW CUT EXISTING CURB PRIOR TO REMOVAL. PROVIDE NEAT AND CLEAN FACE TO ABUT NEW CURB.
9. USE 4,500 (MIN.) PSI CONCRETE.
10. DEPRESS DRIVEWAYS, AS REQUIRED.



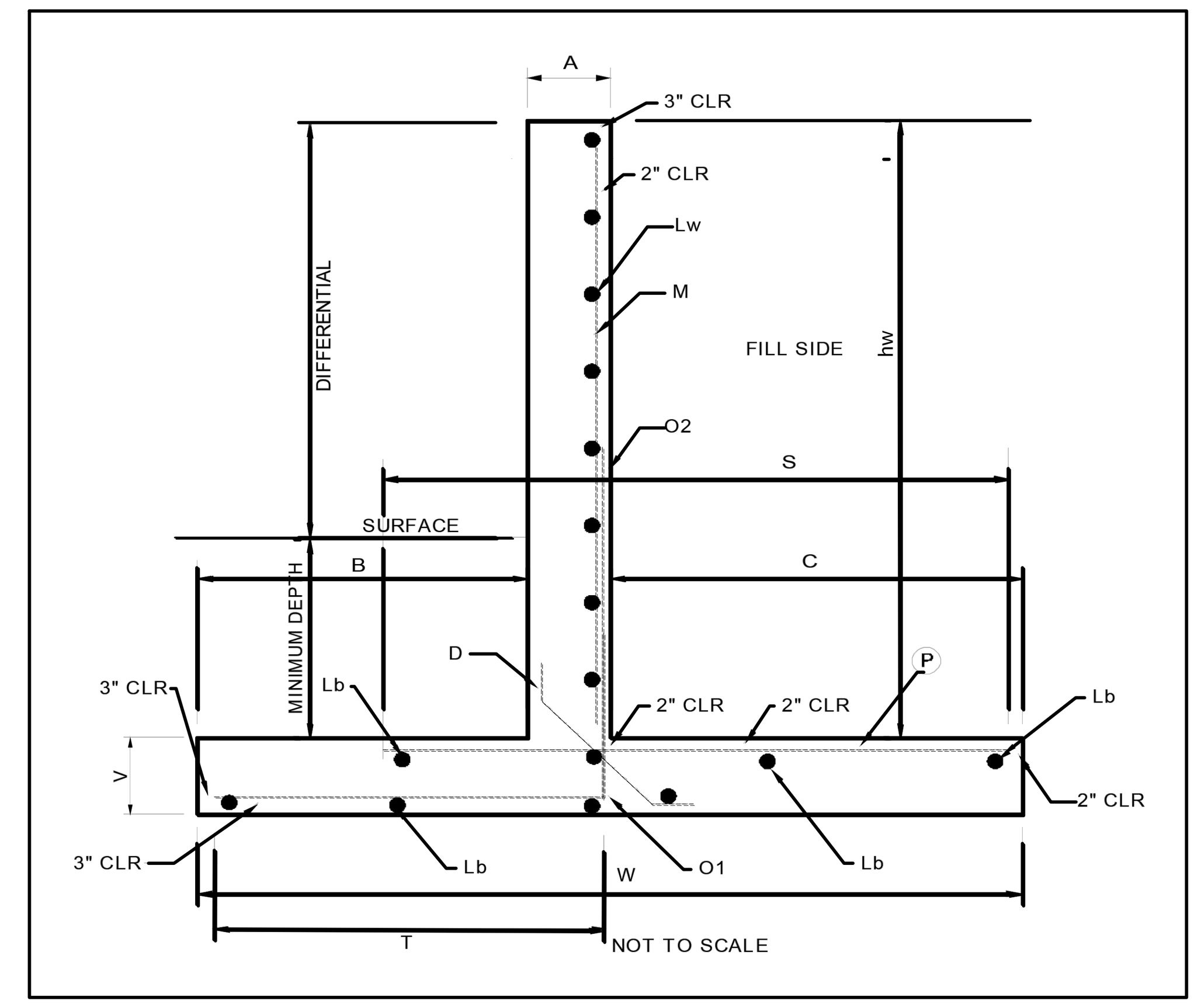
CROSS SECTION

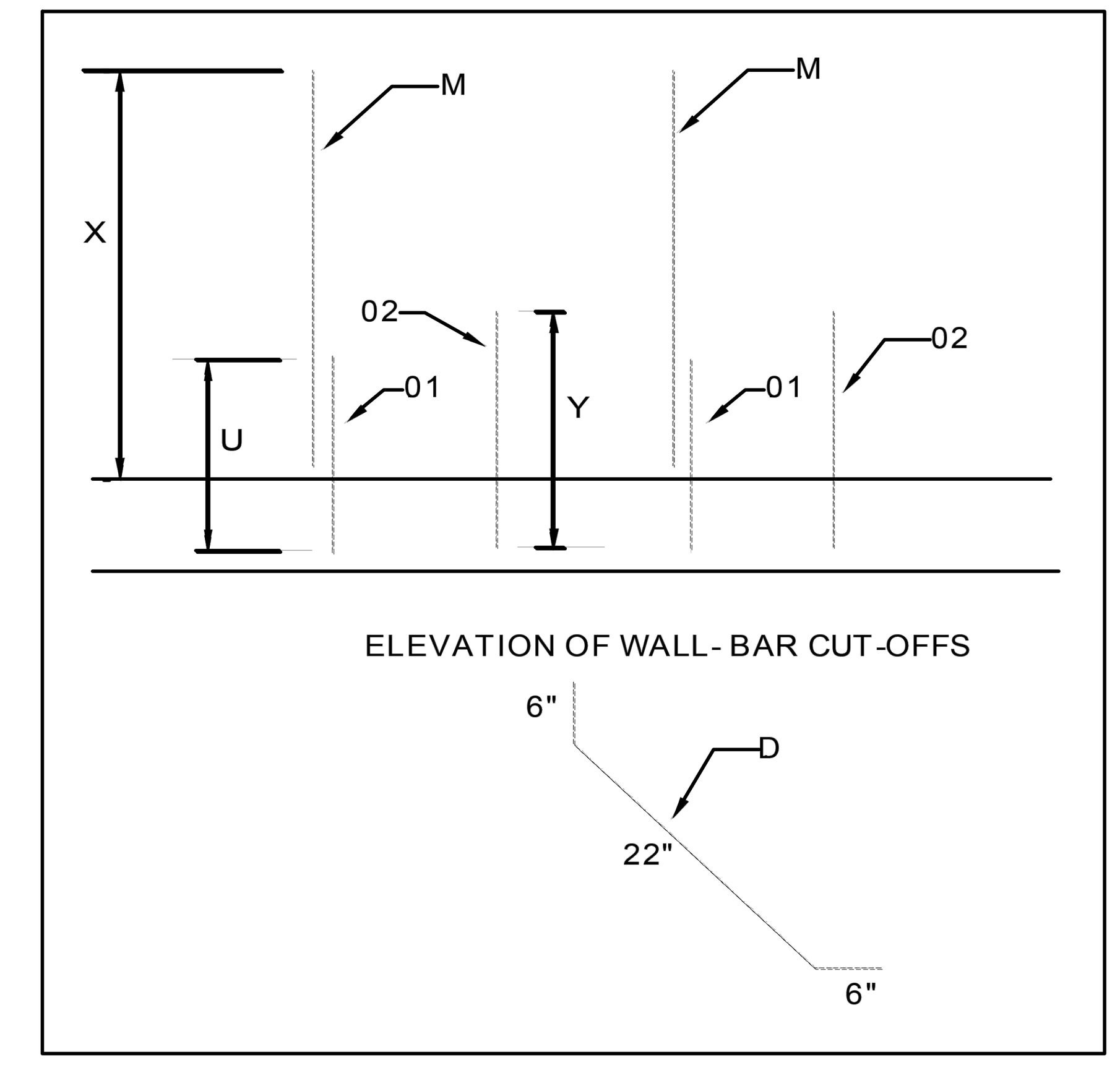
SECTION A-A
(EXPANSION JOINT)

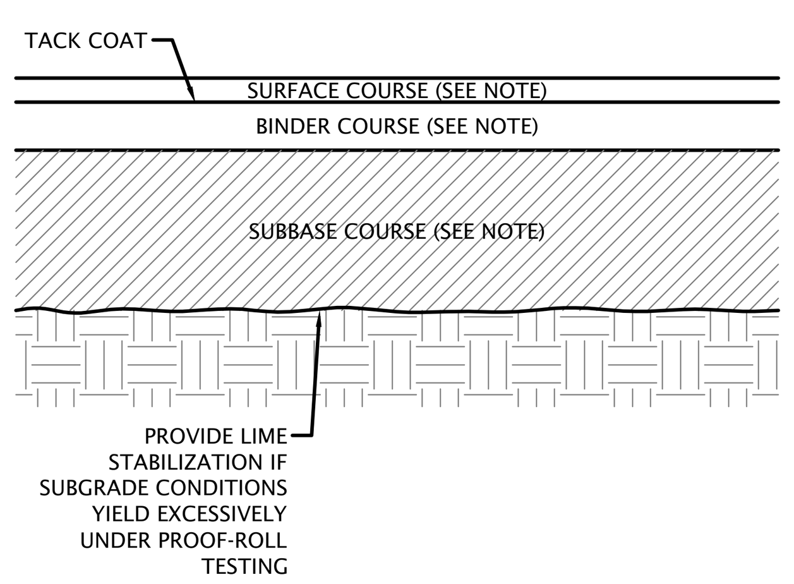
BARRIER CURB & GUTTER
(NOT TO SCALE)

RETAINING WALL DESIGN - SIZE OF WALL											
DIFFER.	hw	A	B	C	W	S	T	V	Y-VARIES	U	X
0-2.0	2'-6"-4'-6"	8"	1'-3"	1'-8"	3'-7"	3'-2"	1'-6"	1'-0"	3'-0"-4'-11"	NOT USED	NOT USED
2.1-3.7	4'-7"-6'-3"	8"	1'-8"	3'-0"	5'-4"	4'-11"	1'-11"	1'-0"	6'-1"-6'-9"	NOT USED	NOT USED
4.0	8'-3"	8"	2'-0"	3'-6"	6'-2"	5'-7"	2'-3"	1'-0"	8'-9"	NOT USED	NOT USED

RETAINING WALL DESIGN - REINFORCEMENT							
	Lb	O2	D	Lw	P	O1	M
0-2.0	5-#4	#4@9"*	#4@9"	#4@12"	#4@9"	NOT USED	NOT USED
2.1-3.7	7-#4	#4@9"	#4@9"	#4@12"	#4@9"	NOT USED	NOT USED
4.0	8-#4	#6@9"	#5@9"	#4@12"	#6@18"	NOT USED	NOT USED
*HOOKED AT BASE							





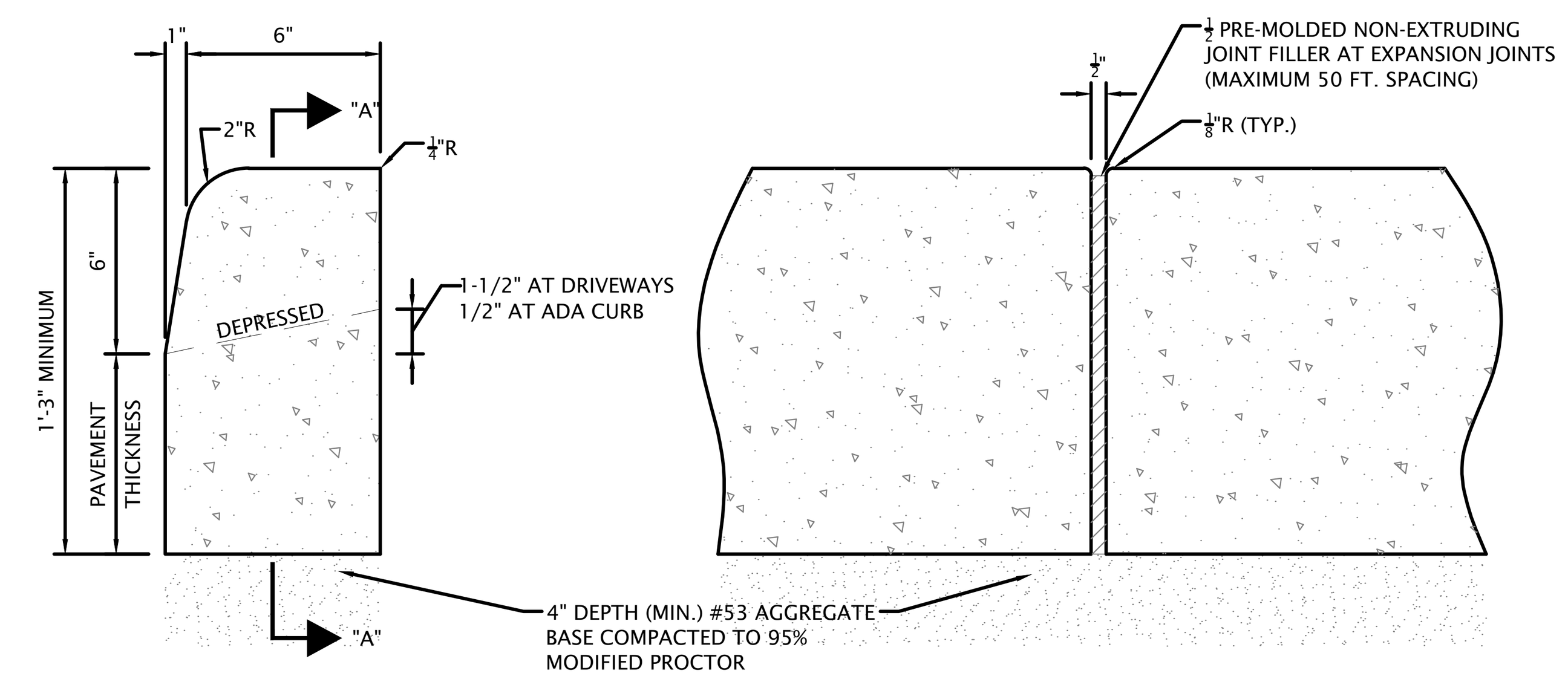


SURFACE COURSE
1.5 INCHES
INDOT HMA TYPE B SURFACE, 9.5mm

BINDER COURSE
3.0 INCHES
INDOT HMA TYPE B INTERMEDIATE, 19.0mm

SUBBASE COURSE
9.0 INCHES OF #53 COMPACTED LIMESTONE AGGREGATE ON APPROVED PROOF-ROLLED SUBGRADE

ASPHALT PAVEMENT CROSS SECTION (REPLACE ALLEY)
(NOT TO SCALE)

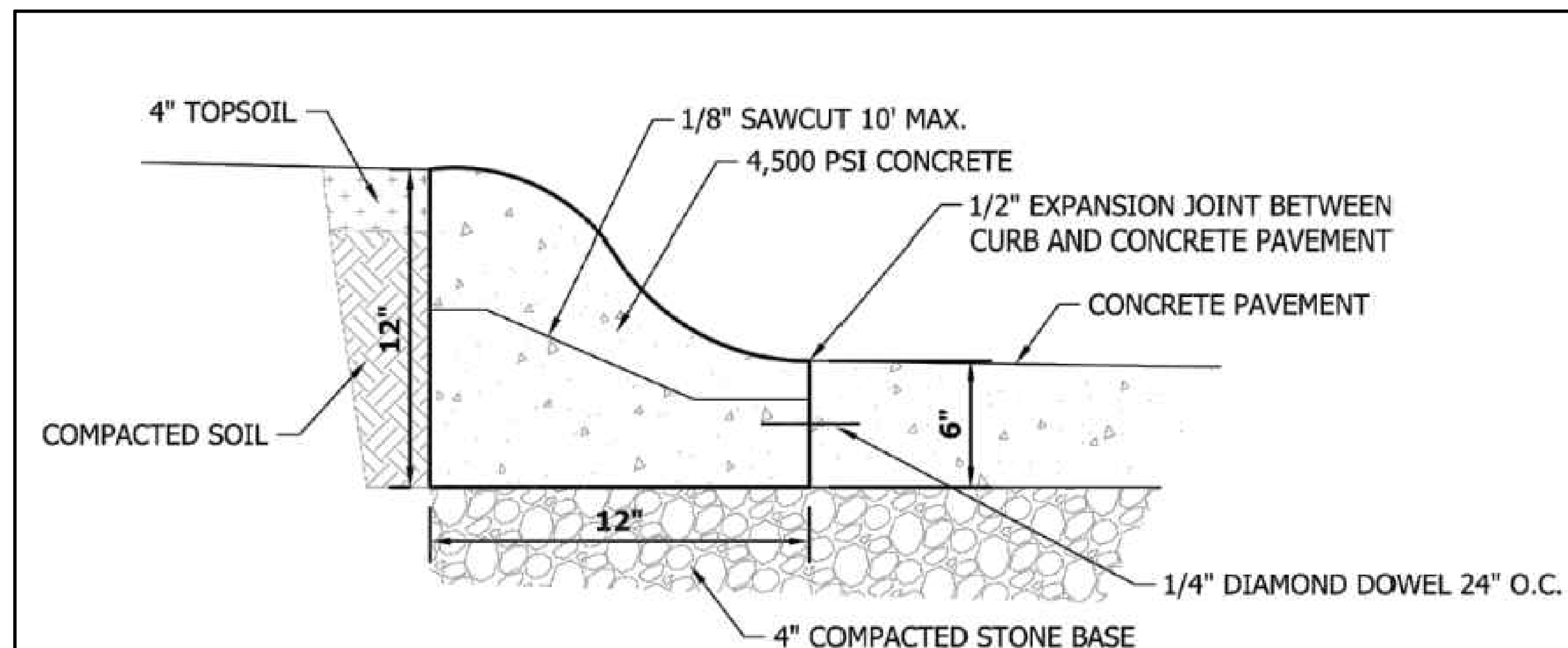


CROSS SECTION

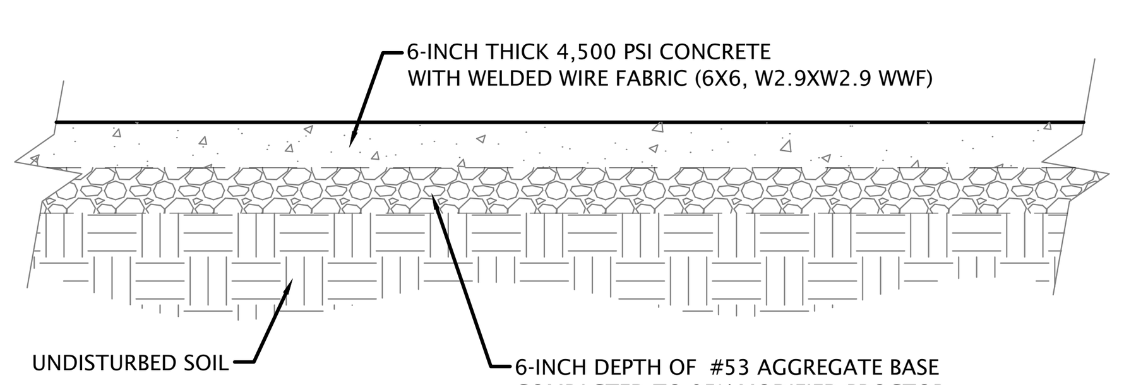
SECTION A-A
(EXPANSION JOINT)

6-INCH BARRIER CURB
(NOT TO SCALE)

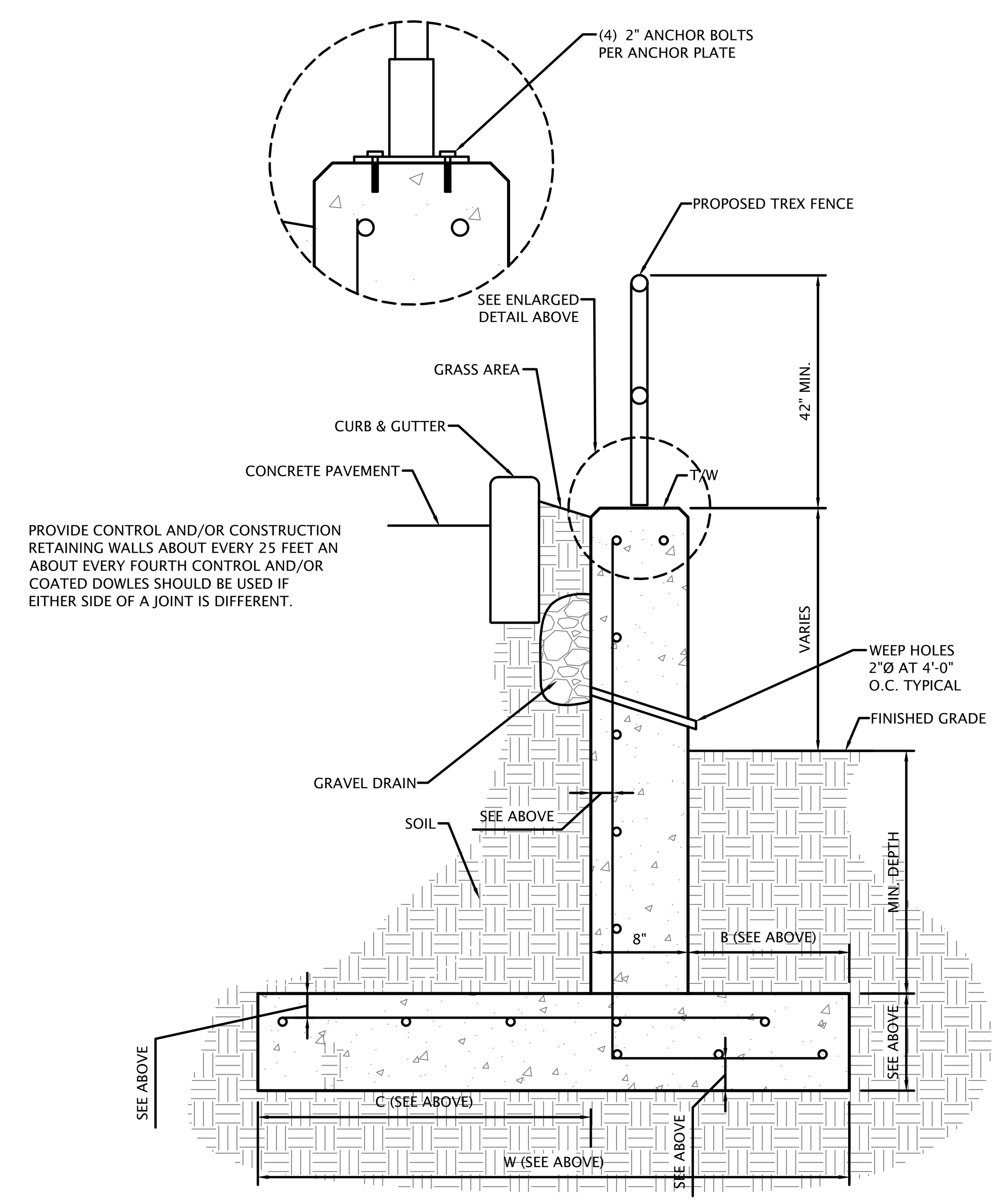
3



CONCRETE ROLL CURB DETAIL
NOT TO SCALE



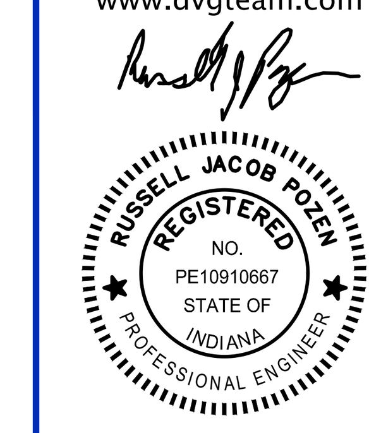
CONCRETE PARKING LOT PAVEMENT
(NOT TO SCALE)



NOTE: RAILING SHOULD BE INSTALLED WHEN RETAINING WALL IS HIGHER THAN 2.5 FEET.

RETAINING WALL AND RAILING DETAIL
(NOT TO SCALE)

DVG TEAM INC
1155 Troutwine Road
Crown Point, IN 46307
P: (219) 662-7710
F: (219) 662-2740
www.dvgteam.com



07/12/2024

Crew Carwash
11700 Exit 5 Parkway
Fishers, IN 46037

DATE:	REVISIONS AND NOTES:
02/04/24	ADDENDUM 2
07/12/24	ADDENDUM 3

111 Ridge Road Munster
Crew #63
Construction Details

NO SCALE

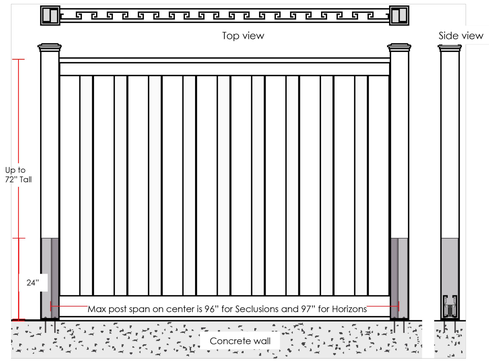
DESIGN BY	DATE
DVG	05/19/23

PROJECT NO.
22-0538

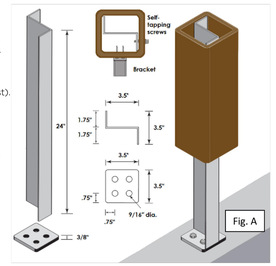
C204

Trex® Fencing — COMPOSITE FENCE SYSTEMS

Z - Concrete Post Mounts

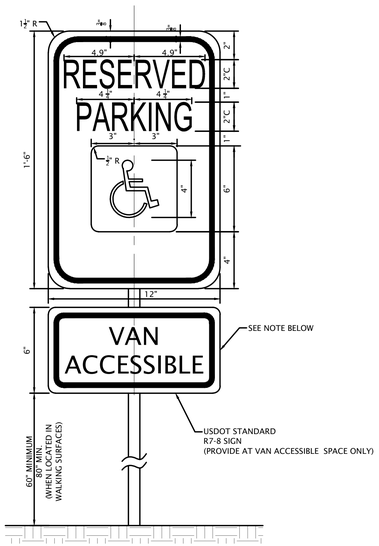


1. Drill four holes for concrete anchors.
2. Fill holes with epoxy and attach base with 1/2" concrete anchors. (Be sure to attach mount with tabs running parallel to wall. This will allow Trex brackets to be attached without screws striking mount. See Fig A).
3. Sleeve Trex post over mount. Plumb post.
4. Secure Trex post to steel mount with self-tapping screws to ensure post does not move. (Tip: if desired, paint heads of self- tapping screws to match fence post).



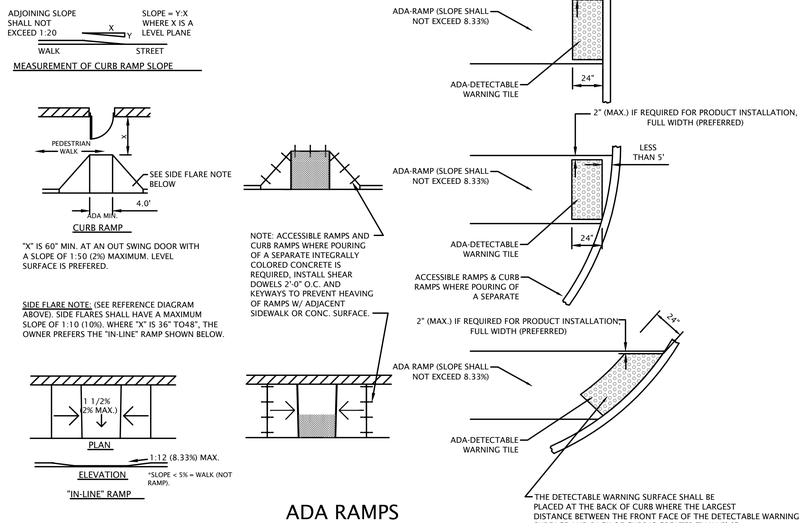
Whenever a post mount is installed, it should be attached in a manner to ensure it will be secure from movement. Evaluate your installation environment to determine beforehand if the mounting surface is sufficiently strong to support the weight of the fence and the force of wind. The wall mount method is offered as a suggestion for securing a fence on top of a wall and is not part of the standard installation process. Wall mounts are not Trex products and are not covered under warranty. Engineering may be necessary to determine if wall mounts will perform properly for your application. We do not recommend using mounts for high wind areas, for walls less than 8" wide and that do not have a footer, for gates, or fences taller than 6'.

Trex® Fencing — COMPOSITE FENCE SYSTEMS
FDS FENCE DISTRIBUTORS
543 E. 600 S. Provo, UT 84606
1-877-700-8739 - YourNextFence.com

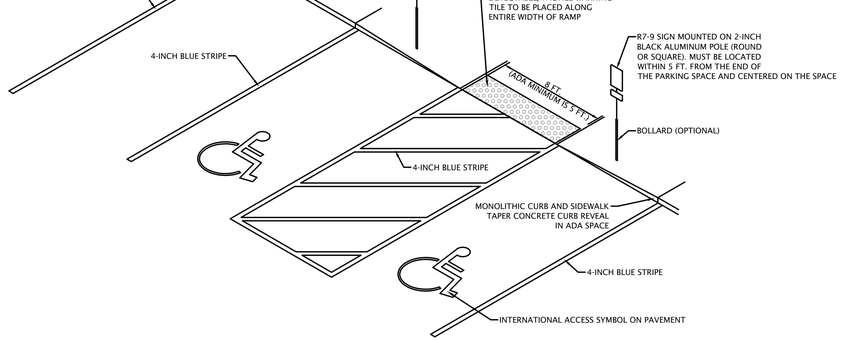


NOTE ON R7-8 SIGN:
THIS IS A STANDARD SIGN AND MAY BE ORDERED FROM ANY TRAFFIC SIGN SUPPLIER BY NUMBER. THE SIGN MUST BE SUPPLEMENTED WITH A "VAN ACCESSIBLE" SIGN AS APPLICABLE AND/OR AMOUNT OF THE FINE FOR ILLEGALLY PARKING IN THE RESERVED SPACE(S) A MUNICIPALITY MAY IMPOSE. CONFIRM WITH LOCAL REGULATIONS.

ADA SIGNAGE



ADA RAMPS



TYPICAL ADA PARKING SPACE PLAN

ADA NOTES

A CURB RAMP(S) MUST BE PROVIDED ALONG AN ACCESSILBE PATH FROM THE PARKING LOT TO OWNERS 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.

A RAMP SHALL HAVE A DETECTABLE SURFACE IDENTIFYING THE AREA OF THE RAMP. DETECTABLE WARNINGS SHALL CONSIST OF TRUNCATED DOMES ALIGNED IN A SQUARE OR RADIAL GRID. TRUNCATED DOMES SHALL HAVE A BASE DIAMETER OF 0.9 IN. TO 1.5 IN. MAXIMUM. A TOP DIAMETER OF 50% OF THE BASE DIAMETER MINIMUM TO 65% OF THE BASE DIAMETER MAXIMUM AND A HEIGHT OF 0.2 IN. DOMES SHALL BE SPACED CENTER-TO-CENTER OF 1.6 IN. MINIMUM TO 2.4 IN. MAXIMUM AND A BASE-TO-BASE SPACING OF 0.65 IN. MINIMUM, MEASURED BETWEEN THE MOST ADJACENT DOMES.

ADA DETECTABLE WARNING STRIPS SHALL BE A CAST IN PLACE DETECTABLE/TACTILE WARNING TILE. THE TILE MUST MEET ALL ADA REQUIREMENTS, AND SHALL BE INSTALLED IN ACCORDANCE WITH THE MANAFACTURERS INSTRUCTIONS. A 5-YEAR WARRANTEE SHALL BE PROVIDED BY THE MANUFACTURER FOR THE INSTALLED TILE FOR COLORFASTNESS AND DURABILITY. DETECTABLE/TACTILE WARNING TILE SHALL BE ARMOR-TILE, ACCESS-TILE OR AN APPROVED VENDOR.

THE LEADING EDGE OF THE DETECTABLE WARNING TILE MUST BE CLOSER THAN 5' FROM THE VEHICLE SURFACE, AND HAVE A MINIMUM OF 24" LENGTH ALONG THE PEDESTRIAN TRAVEL DIRECTION. THE TILE MAY BE CUT TO MATCH A RADIUS AT THE CURB IF ONE END OF THE RAMP EXCEEDS THE 5' MINIMUM.

THE CLEAR WIDTH OF ANY RAMP MEASURED PERPENDICULAR TO THE PEDESTRIAN TRAVEL DIRECTION IS A MINIMUM OF 36".

THERE ARE LOCAL JURISDICTIONS THAT SPECIFICALLY REQUIRE DETECTIBLE WARNINGS ON THE SIDE FLARES OR TOP OF RAMP (CA.). THERE ARE LOCAL JURISDICTIONS THAT HAVE REDEFINED DETECTIBLE WARNINGS (e.g. EXPOSED CONTRASTING COLOR AGGREGATE, GROOVES IN A PARALLEL OR DIAMOND PATTERN ETC.). ACCESSIBILITY GUIDLINES DEFINED BY LOCAL ORDINANCE SHOULD SUPERSEDE WHEN MORE STRINGENT THAN ADAAG. IN THE ABSENCE OF A DEFINITION, FOLLOW ADAAG.

A U.S. DEPARTMENT OF TRANSPORTATION R7-9 (RESERVED PARKING) AND SUPPLEMENTAL SIGNS AS NOTED ABOVE MUST BE MOUNTED ON A PERMANENT POST NO LOWER THAN 60"/80" AS STATED IN THE SIGN DETAIL ABOVE. THE POST MUST BE MOUNTED IN THE CENTER OF THE 8 FOOT WIDE ACCESSIBLE PARKING SPACE, NO MORE THAN 5 FEET FROM THE FRONT OF THE PARKING SPACE. SEE ILLUSTRATION ABOVE.

EACH ACCESSIBLE PARKING SPACE IS TO BE A MINIMUM OF 8 FEET WIDE AND HAVE A 96" MINIMUM ACCESS AISLE FOR VANS OR 60" ACCESS AISLE FOR CARS ADJACENT TO THE SPACE. THE ACCESS AISLE MAY BE ON EITHER THE DRIVER'S SIDE OR THE PASSENGER'S SIDE OF THE ACCESSIBLE SPACE. THIS APPLIES TO 90° PARKING. IF ANGLED PARKING (ie. 45',60'), ACCESS AISLE SHALL BE ON THE PASSENGER SIDE.

ACCESSIBLE PARKING SPACES ARE TO BE LOCATED AS CLOSE TO THE BUILDING ENTRANCE AS POSSIBLE AND SHALL BE IDENTIFIED WITH A SIGN.

ACCESSIBLE PARKING SPACES AND ACCESS AISLES SHALL BE LEVEL WITH A SLOPE BETWEEN 1.5% AND 2% OR 1:50 IN ALL DIRECTIONS. THIS INCLUDES BOTH "RUNNING SLOPES" AND "CROSS SLOPES."

EACH PARKING SPACE ACCESS AISLE MUST CONNECT TO A COMMON LEVEL WITH AN ACCESSIBLE ROUTE...I.E., EACH ACCESS AISLE NEXT TO A PARKING SPACE MUST HAVE A CURB RAMP AT SIDEWALK OR BLEND TO A LEVEL WALKWAY LEADING TO THE ENTRANCE.

ACCESSIBLE PARKING ACCESS AISLES SHALL BE PART OF AN ACCESSIBLE ROUTE TO THE BUILDING ENTRANCE.

THE ACCESS AISLE SHALL BE DESIGNATED WITH HIGH QUALITY YELLOW DIAGONAL SURFACE PAINT STRIPING OR PER LOCAL MUNICIPALITY'S REQUIREMENTS.

RAMPS MUST NOT EXTEND OUT FROM THE CURB INTO THE ACCESS AISLE OF ANY ACCESS PARKING SPACE.

ADA ALLOWS TWO PARKING SPACES TO SHARE AN ACCESS AISLE.

ACCESSIBLE SPACE REQUIREMENTS

TOTAL OFF STREET PARKING SPACES PROVIDED	NUMBER OF ACCESSIBLE PARKING SPACES REQUIRED
1 TO 25	1
26 TO 50	2
51 TO 75	3
76 TO 100	4
101 TO 150	5
151 TO 200	6
201 TO 300	7
301 TO 400	8
401 TO 500	9
501 TO 1000	2% OF TOTAL
OVER 1000	2% PLUS 1 FOR EACH 100 OVER 1000
HOSPITAL OUTPATIENT FACILITIES	10% OF TOTAL PATIENT & VISITOR PARKING SPACES

ADA REQUIRES ONE VAN ACCESSIBLE PARKING SPACE IN EVERY SIX ACCESSIBLE SPACES, BUT NOT LESS THAN ONE.

- VAN ACCESSIBLE SPACES SHALL BE PERMITTED TO BE 8ft WIDE (MIN) WITH A 8ft WIDE (MIN) ACCESS AISLE
  OR
- VAN ACCESSIBLE SPACES SHALL BE PERMITTED TO BE 11ft WIDE WITH A 5ft WIDE (MIN) ACCESS AISLE

ACCESSIBLE PARKING-SIZE AND MARKINGS

NOTES:
1. PAINTED CROSSWALKS SHALL BE WHITE 18" WIDE STRIPES 6' LONG, SPACED 36" ON CENTER ACROSS THE ENTIRE LENGTH OF THE CROSSING.
2. PAINT 2" BLACK OUTLINE AROUND ARROWS AND LETTERS IN AREAS OF CONCRETE SURFACE.
3. PARKING SPACES ARE TO BE "WHITE" - 4" WIDE STRIPES
4. ADA SPACES, ADA MARKING, AND ADA ACCESS SPACE ARE TO BE "BLUE" - 4" WIDE STROKES.

PAVEMENT MARKINGS

DVG TEAM INC
1155 Troutwine Road
Crown Point, IN 46307
P: (219) 662-7710
F: (219) 662-2740
www.dvgteam.com

RUSSELL JACOB ROSEN — REGISTERED — NO. PE10910567 — STATE OF INDIANA — PROFESSIONAL ENGINEER

11/17/2023

Crew Carwash
11700 Exit 5 Parkway
Fishers, IN 46037

DATE:	REVISIONS AND NOTES:

111 Ridge Road Munster
Crew #63
Construction Details

NO SCALE

DESIGN BY	DATE
DVG	05/19/23
PROJECT NO.	
22-0538	

C205

GENERAL STORM WATER MANAGEMENT NOTES

Soil erosion and sedimentation control shall protect against loss of soil by the action of water, ice and wind.

Erosion control shall be in accordance with Town of Munster Storm Water Ordinance & Storm Water Technical Manual & "The Indiana Storm Water Quality Manual".

There are two main elements for Storm Water Quality: Construction Site Stormwater Runoff Control and Post-Construction Stormwater Management. The contractor shall provide Construction Site Stormwater Runoff Control as required and construct the Post-Construction Stormwater Management features as shown on these plans.

The contractor shall be responsible for maintaining site conditions such that Stormwater Runoff Control is provided throughout construction. Surface water runoff management, ie: temporary ditches, swales, bypass pumping, and erosion control measures shall be constructed and maintained as required by construction activity and these items are considered incidental to the contract. These items shall be included in the base contract.

Upon the completion of the site work the contractor shall remove the Construction Site Stormwater Runoff Control measures and install the Post-Construction Stormwater Management measures.

Those Stormwater Runoff Control measures such as detention ponds that will also serve in the Post-Construction Stormwater Management Plan shall have construction sediment removed and full functionality restored upon the completion of the Site construction.

Each Construction Site Stormwater Runoff Control measure shall be installed immediately following the construction of the structure or feature in which the measure is intended to protect.

The contractor is responsible for any damage and/or cleaning to the structure or feature. Corrective work incurred by the contractor shall be considered incidental to the contract.

The contractor is responsible for compliance with the S.W.P.P.P. Any fines or punative measures incurred by the project due to failure to comply with the S.W.P.P.P. are the responsibility of the contractor. These costs shall be considered incidental to the contract, and shall not be considered an extra.

During the course of construction the S.W.P.P.P. may require additional erosion control measures to be installed to address site specific items not anticipated by this plan due to construction schedule or sequencing. It is not the intent of this plan to direct the schedule or sequencing beyond the general construction sequence. Any stormwater runoff control measures required due to construction methodology, sequencing, etc. are incidental to the contract. Corrective work and maintenance shall also be considered incidental, and shall not be considered an extra.

All items shown on these detail sheets are standard details and describe standard installation practices. Not all of these Stormwater Runoff Control measures will be utilized. See the erosion control plan for location and types of erosion control measures utilized. The stormwater checklist document will serve to further outline the S.W.P.P.P. for this project and it is considered part of the plan documents. In the event that site conditions require additional or different erosion control measures, these details serve to describe some acceptable methods.

POTENTIAL CONSTRUCTION POLLUTANT SOURCES

Potential pollutants that could enter the stormwater during construction include exposed soils, fuel and oil from leaking heavy equipment and vehicles. Equipment has the potential to leak fuel throughout the disturbed areas, or wherever construction is occurring. The contractors will inspect equipment before initiating construction and routinely thereafter. If leaks are discovered, they will be repaired before the equipment is used or new equipment will be brought to the site.

Bulk Fuel storage on-site can leak and thereby be a pollutant. All Fuel storage tanks shall meet the minimum requirements of the Fuel Storage requirements.

Exposed soils also have potential for being eroded by water and wind and must be prevented from entering the stormwater system. The contractor will install silt fence, riprap, and ditch checks in areas designated on the site development plans.

MATERIAL HANDLING AND STORAGE

Concrete Washout:
- Concrete wastewater liquid shall be fully evaporated prior to the planned capacity of the washout structure capacity being exceeded. Liquid must be disposed of offsite as wastewater.
- Concrete wastewater liquid that has not solidified may be pumped out into a secondary lined container or into a tanker and taken to an approved disposal facility.
- Concrete wastewater shall not be allowed to leak onto the ground, run into storm drains, or into any body of water. Where washout wastewater leaks onto the ground, all contaminated soils shall be excavated and disposed of properly.
- Allow concrete wastes to set. Break up and properly dispose of hardened wastes. Upon removal of waste, inspect the structure.
- Do not wash sweepings from exposed aggregate concrete into the street or storm drain. Collect and return sweepings to aggregate base stockpile or dispose of in the trash.
- Do not dump excess concrete onsite, except in designated areas.
- When concrete washout areas are no longer required, close the concrete washout systems. Dispose of all hardened concrete and other materials used to construct the system. Backfill, grade, and stabilize any holes, depressions, and other land disturbances associated with the system.

SOLID WASTE MANAGEMENT
- Select designated waste collection areas onsite.
- Inspect dumpsters for leaks and repair any dumpster that is not watertight.
- Dumpsters of sufficient size and number should be provided to contain the solid waste generated by the project. Provide containers with lids or covers that can be placed over the container to keep rain out or to prevent loss of wastes when it is windy.
- Full dumpsters should be removed from the project site and the contents should be disposed of by the trash hauling contractor.
- Plan for additional containers and more frequent pickup during the demolition phase of construction.
- Collect site trash daily, especially during rainy and windy conditions.
- Make sure that toxic liquid wastes (used oils, solvents, and paints) and chemicals (acids, pesticides, additives, curing compounds) are not disposed of in dumpsters designated for construction debris.
- Do not hose out dumpsters on the construction site. Leave dumpster cleaning to the trash hauling contractor.
- Arrange for regular waste collection before containers overflow. Clean up immediately if a container does spill.
- Make sure that construction waste is collected, removed, and disposed of only at authorized disposal areas.
- Litter from work areas within the construction limits of the project site should be collected and placed in watertight dumpsters at least weekly, regardless of whether the litter was generated by the contractor, the public, or others. Collected litter and debris should

  not be placed in or next to drain inlets, stormwater drainage systems, or watercourses.
- Construction debris and waste should be removed from the site biweekly or more frequently as needed.
- Construction material visible to the public should be stored or stacked in an orderly manner.
- Stormwater run-on should be prevented from contacting stored solid waste through the use of berms, dikes, or other temporary diversion structures or through the use of measure to elevate waste from site surfaces.
- Solid waste storage areas should be located at least 50 ft. from drainage facilities and watercourses and should not be located in area prone to flooding or ponding.
- Inspect construction waste area weekly.

CHEMICALS AND LIQUIDS STORAGE AND HANDLING
- Store materials in manufacturer's containers.
- Maintain Safety Data Sheets (SDS) on all products.
- Store materials in a weatherproof/vandal resistant locker or building. Keep materials away from flammable sources.
- Follow manufacturer's instructions for the proper use and storage of all materials.
- Do not perform washing of applicators or containers of solvent, paint, grout, stucco, or other materials near or into a waterway or stormwater inlet. Wash water is to be disposed offsite as wastewater.
- Tightly seal and store paint containers and curing compounds when not required for use.
- Do not discharge excess paint to a waterway or storm system. Properly dispose of excess paint according to the manufacturer's instructions and in accordance with all Federal, State, and local regulations.
- Provide secondary containment for aboveground storage tanks or storage areas containing hazardous materials that are located outside.
- Remove collected liquid in the secondary containment area within 72 hours of its discovery to maintain the capacity.

Fertilizers
- Apply fertilizers only in the minimum amounts recommended by the manufacturer, as indicated from a soil test, or per the Indiana Stormwater Quality Manual.
- Work fertilizers into the soil to limit exposure to stormwater.
- Do not apply immediately prior to precipitation events.
- Store fertilizers in a covered area and transfer partially used bags to a sealable container to avoid spills.

Equipment and Vehicle Washing
- As feasible, perform washing offsite in a covered facility with an impervious floor and drains connected to the sanitary sewer.
- Use a dedicated site for washing. Locate wash areas at least 50 feet from stormwater inlets or water bodies.
- Do not discharge wash water if using soaps, solvents, or detergents. Only non-contaminated wash water may be discharged to stormwater.
- Inspect equipment and vehicles for leaks or worn hoses prior to washing.
- Properly dispose of contaminated wash water.

CONSTRUCTION SITE STORMWATER RUNOFF CONTROL SUMMARY OF BASIC PRINCIPLES

1. Keep disturbed area as small as possible.

2. Stabilize and/or protect disturbed areas as soon as possible.

3. Keep storm water runoff velocities low.

4. Retain sediment within immediate construction area.

The purpose of this plan is to specify methods for construction site stormwater runoff control.

All soil erosion and sedimentation control devices shall be regularly maintained by the contractor through the duration of the project. Collected silt and sedimentation shall be removed as required to maintain the effectiveness of the silt traps or sedimentation control devices. The contractor shall replace filter materials which have become ineffective due to contamination or physical deterioration. The contractor shall inspect all stormwater runoff control devices weekly and after all storm events.

The contractor shall have a log of maintenance and inspections, to be available at the site upon request of Local and State Inspectors.

If possible no grubbing should take place within 30' of an active watercourse.

GENERAL CONSTRUCTION SEQUENCE

- Installation/implementation of storm water quality measures.
- Site Clearing/demolition activities.
- Topsoil removal.
- Mass grading.
- Installation of underground utilities.
- Installation of curb and sidewalk.
- Construction of pavement.
- Final grading.
- Permanent seeding/sod.

STORMWATER QUALITY CONSTRUCTION SEQUENCE

The sequence of when each measure will be implemented is summarized below.

- Post signed CSGP NOI, NPDES Permit number, CSGP NOS (when available), contact information for the site, municipal stormwater permit, and location where construction plans may be obtained in a visible location at entrance to site.
- Construct gravel construction entrance from the street to the building pad prior to construction.
- Install silt fence/fiber rolls prior to construction at construction limits.
- Construct refueling area and concrete washout area prior to construction.
- Install inlet protection at all inlets on property.
- Perform topsoil removal and stockpiling. Soil stockpiles created on site to be protected from erosion with silt fence around the base.
- Perform mass grading of the site subgrade.
- Establish connection between new storm sewer and existing storm sewer.
- Install underground utilities.
- Establish temporary seeding and straw mulch on disturbed areas within 14 days.
- Re-seed any areas disturbed by construction and utilities installation with temporary seed mix within 3 days of completion of disturbance.
- Grade site to final elevations.
- Install curb and sidewalk.
- Construct pavement.
- Install permanent seeding or sod.
- Maintain temporary erosion control features until construction is complete.
- Remove temporary erosion control measures once permanent vegetative cover has been established.
- Submit the the Notice of Termination for the Construction Stormwater General (CSGP) permit.

See attached details for acceptable erosion and sedimentation control installation methods.

TYPES OF CONTROL DEVICES

The Construction Site Stormwater Runoff Control Plan involves the use of four types of control devices to manage runoff thereby assuring that runoff meets the current requirements for stormwater quality.

1. Erosion Control
   - a. Chemical Stabilization
   - b. Geotextiles
   - c. Scour Stop
   - d. Riprap
   - e. Mulching
   - f. Soil Roughening
   - g. Topsoil Utilization
   - h. Seeding
   - i. Sodding
2. Runoff Control
   - a. Check Dams
   - b. Temporary Diversion Dikes
   - c. GeoRidge Ditch Berms
3. Sediment Control
   - a. Polymer Systems (Floc Logs)
   - b. Fiber Rolls
   - c. Sediment Basins
   - d. Dewatering Bags
   - e. Silt Fence
   - f. Storm Drain Inlet Protection
   - g. Construction Entrances
   - h. Construction Entrance Mud Mats
4. Material Management (housekeeping)
   - a. Concrete Washouts
   - b. Spill Prevention and Control Plan
   - c. Fuel Storage
   - d. Stockpiles
   - e. Temporary Facilities
   - f. Material Handling and Storage

SELF MONITORING PROGRAM

The contractor shall perform inspections weekly and after each storm event of 0.5" or more throughout the construction process for all Construction Site Stormwater Runoff Control measures.

See the Maintenance Section under each measure, or follow the manufacturers recommendations for routine maintenance.

The attached self monitoring form shall be used to monitor the Construction Site Stormwater Runoff Control measures. A binder of the weekly forms shall be kept and available upon request.

The contractors will inspect equipment before initiating construction and routinely thereafter to assure that mechanical equipment is not polluting the stormwater runoff.

SELF MONITORING FORM

Date: _____
Project: _____
Inspected by: _____

Type of Inspection: ☐ Scheduled Weekly ☐ Rain Event

CONSTRUCTION SITE INSPECTION AND MAINTENANCE LOG
(To be Completed by Property Owner or Agent)

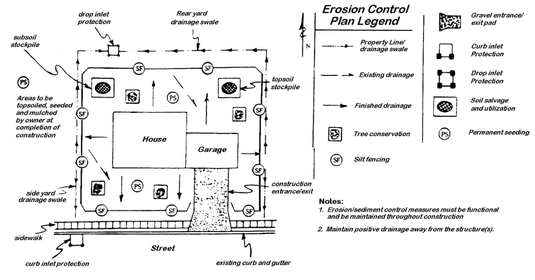
All stormwater pollution prevention BMPs shall be inspected and maintained as needed to ensure continued performance of their intended function during construction and shall continue until the entire site has been stabilized and a Notice of Termination has been issued. An inspection of the project site must be completed by the end of the next business day following each measurable storm event. If there are no measurable storm events within a given week, the site should be monitored at least once in that week. Maintenance and repair shall be conducted in accordance with the accepted site plans. This log shall be kept as a permanent record and must be made available to the Municipal Engineer, in an organized fashion, within forty-eight (48) hours upon request.

Yes	No	N/A	
			1. Are all sediment control barriers, inlet protection and silt fences in place and functioning properly?
			2. Are all erodible slopes protected from erosion through the implementation of acceptable soil stabilization practices?
			3. Are all dewatering structures functioning properly?
			4. Are all discharge points free of any noticeable pollutant discharges?
			5. Are all discharge points free of any noticeable erosion or sediment transport?
			6. Are designated equipment washout areas properly sited, clearly marked, and being utilized?
			7. Are construction staging and parking areas restricted to areas designated as such on the plans?
			8. Are temporary soil stockpiles in approved areas and properly protected?
			9. Are construction entrances properly installed and being used and maintained?
			10. Are "Do Not Disturb" areas designated on plan sheets clearly marked on-site and avoided?
			11. Are public roads at intersections with site access roads being kept clear of sediment, debris, and mud?
			12. Is spill response equipment on-site, logically located, and easily accessed in an emergency?
			13. Are emergency response procedures and contact information clearly posted?
			14. Is solid waste properly contained?
			15. Is a stable access provided to the solid waste storage and pick-up area?
			16. Are hazardous materials, waste or otherwise, being properly handled and stored?
			17. Have previously recommended corrective actions been implemented?

If you answered "no" to any of the above questions, describe any corrective action which must be taken to remedy the problem and when the corrective actions are to be completed.

SAMPLE EROSION/SEDIMENT CONTROL PRACTICE PLAN

FOR A TYPICAL ONE OR TWO FAMILY DWELLING UNDER CONSTRUCTION



POST-CONSTRUCTION STORMWATER MANAGEMENT PLAN

- After construction is completed, including buildings, parking lots constructed, and landscaping, the property owner will take possession of the property. When the property becomes occupied, it is no longer the responsibility of the developer to maintain the site. The responsibility for maintaining the permanent erosion and sediment control measures belongs to the current owner/s of the property. Pollutants associated with the proposed land use will most likely be very typical of commercial/retail developments. Most expected pollutants will be associated with automobiles: oil, grease, antifreeze, brake dust, rubber fragments, gasoline, diesel fuel, metals, and improper disposal of trash. It is the responsibility of the property owner/s or owners association to provide routine maintenance. Some maintenance items may include trimming vegetation, picking up litter, monitoring and cleaning catch basins, pond outlet structure and culverts. The sediment control basins protecting the stormwater quality of the site will require periodic cleaning of sediments that accumulate. After vegetation has been established, temporary erosion and sediment control measures such as silt fence and straw bales will be removed by the installing contractor.
- The plans make use of a detention pond system and green space to control the pollutants that occur after construction activities conclude.
- The post-construction stormwater quality measures will be installed as a part of the normal construction activities for the site. They shall be fully operational, and complete at the completion of construction.
- All storm water run-off shall be controlled by restrictors in the outfall pipes constructed as part of these engineering plans. The stormwater quality measures shall minimize the pollutants from stormwater run-off and therefore minimize adverse impacts to the receiving streams and riparian habitats.
- Green spaces - The green space areas of the site should receive routine fertilizing, watering, mowing and trimming to maintain a healthy landscape.
- Catch basins - Catch basins should be routinely inspected for build up of sediment. Mechanical cleaners or hand cleaning will be required to maintain the function of the catch basin.
- Storm drain flushing - In the event that the storm drains cease to function properly due to excessive sediment buildup, flushing of the storm drains may be required.
- Trees
- Native re-vegetation
- Pre-cast Storm Drain Covers
- Grass swales - Grass swales should receive routine fertilizing, watering, mowing and trimming to maintain a healthy landscape.

DVG Team Inc. has prepared this erosion and sedimentation control plan for the owner/developer in accordance with the known requirements and ordinances. It is the responsibility of the owner/developer for compliance with this erosion and sedimentation control plan and the related attachments by all subcontractors and consultants that perform work on the project site. The owner/developer is responsible for the routine inspection and maintenance of the erosion and sediment control measures. DVG Team Inc. is not responsible for the enforcement or compliance of the Erosion and Sediment Control Plan. Any additional erosion or sediment control measures beyond those specified in this plan, for unforeseen or unexpected situations, which may be required by the regulatory agencies shall be the responsibility of the owner/developer to implement.

DVG TEAM INC
1155 Troutwine Road
Crown Point, IN 46307
P: (219) 662-7710
F: (219) 662-2740
www.dvgteam.com

RUSSELL JACOB REZEK REGISTERED NO. PE10910667 STATE OF INDIANA PROFESSIONAL ENGINEER

11/17/2023

Crew Carwash
11700 Exit 5 Parkway
Fishers, IN 46037

DATE:	REVISIONS AND NOTES:

111 Ridge Road Munster
Crew #63
Stormwater Pollution
Prevention Plan Details

NO SCALE

DESIGN BY	DATE
DVG	05/19/23
PROJECT NO.	
22-0538	

C301

EROSION CONTROL MEASURES
CHEMICAL STABILIZATION

MATERIAL: SOFT PIABLE MATTING SUCH AS JUTE, COIR OR BURLAP, APPLIED POLYMER SYSTEMS, "SILT STOP" DRY POWER (OR APPROVED EQUAL).

COVERAGE: "SILT STOP" DRY POWDER IS A SOIL-SPECIFIC MATERIAL. A SOIL SAMPLE MUST BE SUBMITTED TO THE MANUFACTURER TO DETERMINE PROPER APPLICATION RATES.

INSTALLATION:
1. PREPARE THE SITE BY FILLING IN GULLIES, RILLS AND LOW SPOTS.
2. APPLY "SILT STOP" POWER (DRY) OVER DRY GROUND WITH A SEED/FERTILIZER SPREADER.
3. SELECT THE TYPE AND WEIGHT OF EROSION CONTROL BLANKET TO FIT THE SITE CONDITIONS (e.g. SLOPE, CHANNEL AND FLOW VELOCITY).

MAINTENANCE:
1. DURING VEGETATIVE ESTABLISHMENT, INSPECT AFTER STORM EVENTS FOR ANY EROSION.
2. IF ANY AREA SHOWS EROSION, REPAIR THE GRADE AND RE-APPLY "SILT STOP" POWDER AND RE-LAY AND STAPLE THE BLANKET.
3. AFTER VEGETATIVE ESTABLISHMENT, CHECK THE TREATED AREA PERIODICALLY.

GEOTEXTILES

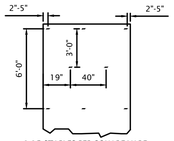
MATERIAL: NORTH AMERICAN GREEN - SC 150 or DS 150 BLANKET
SC 150 WHEN PLACEMENT OCCURS IN THE FALL/WINTER AND WHEN DURABILITY IS REQUIRED
DS 150 DEGRADES MORE RAPIDLY, ALLOWING FOR SOONER MOWING OF THE STABILIZED AREA

EROSION CONTROL BLANKET (SURFACE-APPLIED)

ANCHORING: STAPLES AS RECOMMENDED BY THE MANUFACTURER. FOR NORTH AMERICAN GREEN, USE STAPLE PATTERN "B". SEE CHART BELOW.

INSTALLATION:
1. SELECT THE TYPE AND WEIGHT OF EROSION CONTROL BLANKET TO FIT THE SITE CONDITIONS (e.g. SLOPE, CHANNEL, FLOW VELOCITY).
2. INSTALL ANY PRACTICES NEEDED TO CONTROL EROSION AND RUNOFF, SUCH AS TEMPORARY OR PERMANENT DIVERSION, SEDIMENT BASIN OR TRAP, SILT FENCE, AND/OR STRAW BALE DAM.
3. GRADE THE SITE AS SPECIFIED IN THE CONSTRUCTION PLAN.
4. ADD TOPSOIL WHERE APPROPRIATE.
5. PREPARE THE SEEDBED, FERTILIZE (AND LIME IF NEEDED) AND SEED THE AREA IMMEDIATELY AFTER GRADING.
6. FOLLOW MANUFACTURER'S DIRECTIONS AND LAY THE BLANKETS ON THE SEEDED AREA SUCH THAT THEY ARE IN CONTINUOUS CONTACT WITH THE SOIL AND THAT THE UPSLOPE OR UPSTREAM ONES OVERLAP THE LOWER ONES BY AT LEAST 8 INCHES.
7. TUCK THE UPPERMOST EDGE OF THE UPPER BLANKETS INTO A CHECK SLOT (SLIT TRENCH), BACKFILL WITH SOIL, AND TAMP DOWN.
8. ANCHOR THE BLANKETS AS SPECIFIED BY THE MANUFACTURER.

MAINTENANCE:
1. DURING VEGETATIVE ESTABLISHMENT, INSPECT AFTER STORM EVENTS FOR ANY EROSION BELOW THE BLANKET.
2. IF ANY AREA SHOWS EROSION, PULL BACK THAT PORTION OF THE BLANKET COVERING IT, ADD SOIL, RE-SEED THE AREA, AND RE-LAY AND STAPLE THE BLANKET.
3. AFTER VEGETATIVE ESTABLISHMENT, CHECK THE TREATED AREA PERIODICALLY.

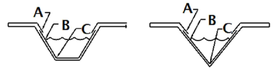


1.15 STAPLES PER SQUARE YARD
STAPLE PATTERN "B"
NORTH AMERICAN GREEN
(NOT TO SCALE)

EROSION CONTROL BLANKET (CHANNEL APPLICATION)

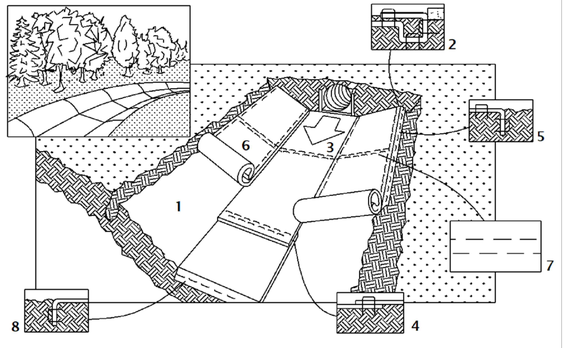
DETAIL SOURCE: NORTH AMERICAN GREEN

NOTE: HORIZONTAL STAPLE SPACING SHOULD BE ALTERED IF NECESSARY TO ALLOW STAPLES TO SECURE THE CRITICAL POINTS ALONG THE CHANNEL SURFACE. REFER TO GENERAL STAPLE PATTERN GUIDE FOR CORRECT STAPLE RECOMMENDATIONS FOR CHANNELS.



CRITICAL POINTS:

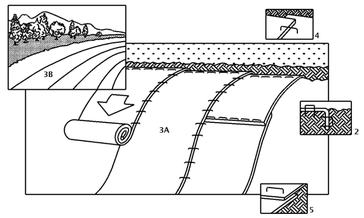
A. OVERLAPS AND SEAMS
B. PROJECTED WATER LINE
C. CHANNEL BOTTOM/SIDES, SLOPE VERTICES



1. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING APPLICATION OF LIME, FERTILIZER AND SEED.
2. BEGIN AT THE TOP OF THE CHANNEL BY ANCHORING THE BLANKET IN A 6-INCH DEEP BY 6-INCH WIDE TRENCH, BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
3. ROLL CENTER BLANKET IN DIRECTION OF WATER FLOW ON BOTTOM OF CHANNEL.
4. PLACE BLANKETS END OVER END (SHINGLE-STYLE) WITH A 6-INCH OVERLAP. USE A DOUBLE ROW OF STAGGERED STAPLES 4 INCHES APART TO SECURE BLANKETS.
5. FULL LENGTH EDGE OF BLANKETS AT THE TOP OF SIDE SLOPES MUST BE ANCHORED IN 6-INCH DEEP BY 6-INCH WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
6. BLANKETS ON SIDE SLOPES MUST BE OVERLAPPED 4 INCHES OVER THE CENTER OF BLANKET AND STAPLED (2 INCHES FOR C350 MATTING).
7. IN HIGH FLOW CHANNEL APPLICATIONS, A STAPLE CHECK SLOT IS RECOMMENDED AT 30 FT. TO 40 FT. INTERVALS. USE A ROW OF STAPLES 4 INCHES APART OVER ENTIRE WIDTH OF CHANNEL. PLACE A SECOND ROW 4 INCHES BELOW THE FIRST ROW IN A STAGGERED PATTERN.
8. THE TERMINAL END OF THE BLANKETS MUST BE ANCHORED IN A 6-INCH DEEP BY 6-INCH WIDE TRNECH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.

EROSION CONTROL BLANKET (SIDE SLOPE APPLICATION)

DETAIL SOURCE: NORTH AMERICAN GREEN



NOTE: REFER TO GENERAL STAPLE PATTERN GUIDE FOR CORRECT STAPLE RECOMMENDATIONS FOR CHANNELS.

DIRECTIONS:
1. PREPARE SOIL BEFORE INSTALLING BLANKETS INCLUDING APPLICATION OF LIME, FERTILIZER AND SEED. WHEN USING CELL-O-SEED, DO NOT SEED PREPARED AREA. CELL-O-SEED MUST BE INSTALLED WITH PAPER SIDE DOWN.
2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET 6-INCHEDEEP BY 6-INCH WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
3. ROLL THE BLANKETS DOWN OR HORIZONTALLY ACROSS THE SLOPE.
4. THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH AN APPROXIMATELY 2-INCH OVERLAP.
5. WHEN BLANKETS MUST BE SPLICED DOWN THE SLOPE, PLACE BLANKETS END OVER END (SHINGLE-STYLE) WITH AN APPROXIMATELY 4-INCH OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12 INCHES APART.

RIP RAP AT PIPE OUTLET

MATERIAL: HARD, ANGULAR AND WEATHER-RESISTANT, HAVING A SPECIFIC GRAVITY OF AT LEAST 2.5
GRADATION: WELL-GRADED STONE, 50% (BY WEIGHT LARGER THAN THE SPECIFIED d50; HOWEVER, THE LARGEST PIECES SHOULD NOT EXCEED TWO TIMES THE SPECIFIED d50 AND NO MORE THAN 15% OF THE PIECES (BY WEIGHT) SHOULD BE LESS THAN 3 INCHES.
FILTER: USE GEOTEXTILE FABRIC FOR STABILIZATION AND FILTRATION OR SAND/GRAVEL LAYER PLACED UNDER ALL PERMANENT RIP RAP INSTALLATIONS.
SLOPE: 2:1 OR FLATTER, UNLESS APPROVED IN THE EROSION AND SEDIMENT CONTROL PLAN.

SUBGRADE PREPARATION

1. REMOVE BRUSH, TREES, STUMPS AND OTHER DEBRIS.
2. EXCAVATE ONLY DEEP ENOUGH FOR BOTH FILTER AND RIP RAP. OVER-EXCAVATION INCREASES THE AMOUNT OF SPOIL CONSIDERABLY.
3. COMPACT ANY FILL MATERIAL TO THE DENSITY OF THE SURROUNDING UNDISTURBED SOIL.
4. SMOOTH THE GRADED FOUNDATION.

FILTER PLACEMENT

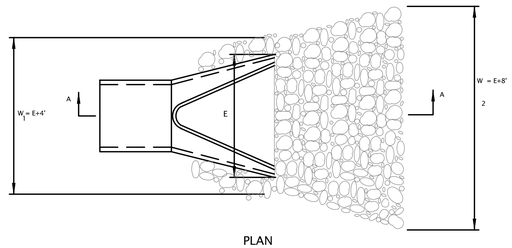
1. IF USING GEOTEXTILE FABRIC, PLACE IT ON THE SMOOTHED FOUNDATION. OVERLAP THE EDGES AT LEAST 12 INCHES AND SECURE WITH ANCHOR PINS SPACED EVERY 3 FEET ALONG THE OVERLAP.
2. IF USING A SAND/GRAVEL FILTER, SPREAD THE WELL-GRADED AGGREGATE IN A UNIFORM LAYER TO THE REQUIRED THICKNESS (6 INCHES MINIMUM); IF TWO OR MORE LAYERS ARE SPECIFIED, PLACE THE LAYER OF SMALLER GRADATION FIRST AND AVOID MIXING THE LAYERS.

RIP RAP PLACEMENT

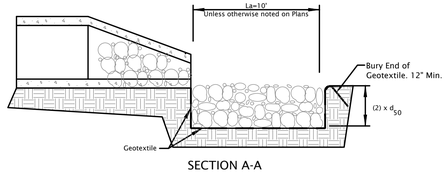
1. IMMEDIATELY AFTER INSTALLING THE FILTER, ADD THE RIP RAP TO FULL THICKNESS IN ONE OPERATION. DO NOT DUMP THROUGH CHUTES OR USE ANY METHOD THAT CAUSES SEGREGATION OF ROCK SIZES OR THAT WILL DISLODGE OR DAMAGE THE UNDERLYING FILTER MATERIAL.
2. IF FABRIC IS DAMAGED, REMOVE THE RIP RAP AND REPAIR BY ADDING ANOTHER LAYER OF FABRIC, OVERLAPPING THE DAMAGED AREA BY 12 INCHES.
3. PLACE SMALLER ROCK IN VOIDS TO FORM A DENSE, UNIFORM AND WELL-GRADED MASS. SELECTIVE LOADING AT THE QUARRY AND SOME HAND PLACEMENT MAY BE NEEDED TO ENSURE AN EVEN DISTRIBUTION OF ROCK MATERIAL.
4. BLEND THE ROCK SURFACE SMOOTHLY WITH THE SURROUNDING AREA TO ELIMINATE PROTRUSIONS OR OVER-FALLS.

MAINTENANCE

1. INSPECT PERIODICALLY FOR DISPLACED ROCK MATERIAL, SLUMPING AND EROSION AT EDGES, ESPECIALLY DOWN-STREAM OR DOWN-SLOPE.



PLAN
(NOT TO SCALE)

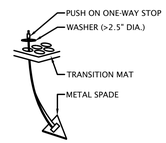


SECTION A-A
(NOT TO SCALE)

SCOURSTOP TRANSITION MAT FOR SCOUR PROTECTION

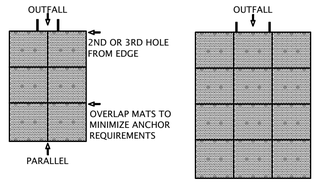
MATERIAL: SCOUR STOP TRANSITION MATS
WH SHURTLEFF COMPANY
11 WALLACE AVENUE
SOUTH PORTLAND, ME 04106
(800) 663-6149
WWW.WHSHURTLEFF.COM

PIPE DIAMETER	DISCHARGE (CFS)	SCOURSTOP WIDTHxLENGTH
12"	8	4' x 4'
24"	30	4' x 8'
36"	75	8' x 12'
48"	100	12' x 16'
60"	150	12' x 20'
72"+		SEE DETAILS



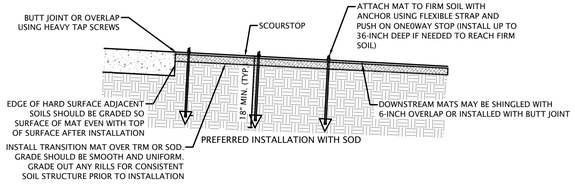
ANCHOR REQUIREMENTS*: FIRST ROW OF SCOURSTOP MATS - MINIMUM OF 8 ANCHORS
SECTION ROW OF SCOURSTOP MATS - MINIMUM OF 5 ANCHORS

* TO ENSURE CONSISTENT CONTACT WITH THE SOIL, EXCEED THE MINIMUM ANCHOR REQUIREMENT AT INSTALLATION OR IMPROVE SOIL SURFACE SMOOTHNESS



SHORELINE PROTECTION:

- ANCHOR CONFIGURATION FOR SLOPES STEEPER THAN 5:1
- TRANSITION MATS OVER A MINIMUM 8 OZ. GEOTEXTILE
- POSITION ANCHORS TO SECURE SCOURSTOP MATS FLUSH WITH SOIL SURFACE
- MINIMIZE GAPS OR BRIDGING



NOT TO SCALE

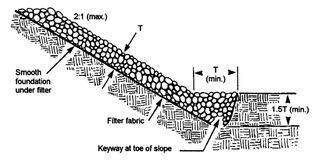
NOTES:
1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURERS' SPECIFICATIONS.
2. DO NOT SCALE DRAWINGS.

RIP-RAP FOR SCOUR PROTECTION

MATERIAL: HARD, ANGULAR AND WEATHER-RESISTANT, HAVING A SPECIFIC GRAVITY OF AT LEAST 2.5
GRADATION: WELL-GRADED STONE, 50% (BY WEIGHT LARGER THAN THE SPECIFIED d50; HOWEVER, THE LARGEST PIECES SHOULD NOT EXCEED TWO TIMES THE SPECIFIED d50 AND NO MORE THAN 15% OF THE PIECES (BY WEIGHT) SHOULD BE LESS THAN 3 INCHES.
FILTER: USE GEOTEXTILE FABRIC FOR STABILIZATION AND FILTRATION OR SAND/GRAVEL LAYER PLACED UNDER ALL PERMANENT RIP RAP INSTALLATIONS.
SLOPE: 2:1 OR FLATTER, UNLESS APPROVED IN THE EROSION AND SEDIMENT CONTROL PLAN.
MINIMUM THICKNESS: TWO TIMES THE SPECIFIED d50 STONE DIAMETER.

SUBGRADE PREPARATION

1. REMOVE BRUSH, TREES, STUMPS AND OTHER DEBRIS.
2. EXCAVATE ONLY DEEP ENOUGH FOR BOTH FILTER AND RIP RAP. OVER-EXCAVATION INCREASES THE AMOUNT OF SPOIL CONSIDERABLY.
3. COMPACT ANY FILL MATERIAL TO THE DENSITY OF THE SURROUNDING UNDISTURBED SOIL.
4. CUT KEYWAY IN STABLE MATERIAL AT THE BASE OF THE SLOPE TO REINFORCE TOE. KEYWAY DEPTH SHOULD BE 1.5 TIMES THE DESIGN THICKNESS OF THE RIP RAP AND SHOULD EXTEND A HORIZONTAL DISTANCE EQUAL TO THE DESIGN THICKNESS.
5. SMOOTH THE GRADED FOUNDATION



FILTER PLACEMENT

1. IF USING GEOTEXTILE FABRIC, PLACE IT ON THE SMOOTHED FOUNDATION, OVERLAP THE EDGES AT LEAST 12 INCHES AND SECURE WITH ANCHOR PINS SPACED EVERY 3 FEET ALONG THE OVERLAP.
2. IF USING A SAND/GRAVEL FILTER, SPREAD THE WELL-GRADED AGGREGATE IN A UNIFORM LAYER TO THE REQUIRED THICKNESS (6 INCHES MINIMUM); IF TWO OR MORE LAYERS ARE SPECIFIED, PLACE THE LAYER OF SMALLER GRADATION FIRST AND AVOID MIXING THE LAYERS.

RIP RAP PLACEMENT

1. IMMEDIATELY AFTER INSTALLING THE FILTER, ADD THE RIP RAP TO FULL THICKNESS IN ONE OPERATION. DO NOT DUMP THROUGH CHUTES OR USE ANY METHOD THAT CAUSES SEGREGATION OF ROCK SIZES OR THAT WILL DISLODGE OR DAMAGE THE UNDERLYING FILTER MATERIAL.
2. IF FABRIC IS DAMAGED, REMOVE THE RIP RAP AND REPAIR BY ADDING ANOTHER LAYER OF FABRIC, OVERLAPPING THE DAMAGED AREA BY 12 INCHES.
3. PLACE SMALLER ROCK IN VOIDS TO FORM A DENSE, UNIFORM AND WELL-GRADED MASS. SELECTIVE LOADING AT THE QUARRY AND SOME HAND PLACEMENT MAY BE NEEDED TO ENSURE AN EVEN DISTRIBUTION OF ROCK MATERIAL.
4. BLEND THE ROCK SURFACE SMOOTHLY WITH THE SURROUNDING AREA TO ELIMINATE PROTRUSIONS OR OVER-FALLS.

MAINTENANCE

1. INSPECT PERIODICALLY FOR DISPLACED ROCK MATERIAL, SLUMPING AND EROSION AT EDGES, ESPECIALLY DOWN-STREAM OR DOWN-SLOPE.

SILT FENCE

APPROACH: POOL AREA FLAT (LESS THAN 1% SLOPE), WITH SEDIMENT STORAGE OF 945 CU.FT./ACRE DISTURBED.

MATERIALS: ECONOMY BLUE STRIPE SILT FENCE WITH POSTS, MANUFACTURED BY MIDWEST CONSTRUCTION PRODUCTS AT (800) 532-2381 OR APPROVED EQUAL.

ANCHORING: 2 INCH BY 2 INCH HARDWOOD STAKES WITH A LENGTH EQUAL TO THE HEIGHT OF THE SILT FENCE PLUS 1 FOOT.

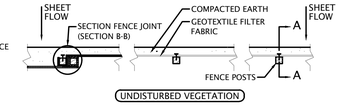
INSTALLATION:

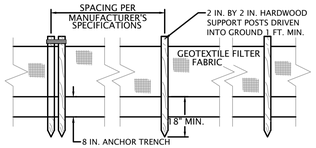
1. DRIVE STAKES 1 FT. (MINIMUM) INTO GROUND AND ATTACH FABRIC TO STAKES WITH STAPLER.
2. BOTTOM OF FABRIC SHALL BE PLACED UNDER 6 INCHES COMPACTED SOIL TO PREVENT SEDIMENT FLOW UNDERNEATH THE FENCE.
3. ENSURE THAT ALL SUPPORTING POSTS ARE ON THE DOWN SLOPE SIDE OF THE FENCING.

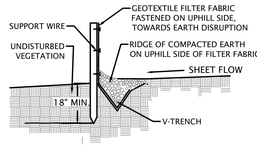
MAINTENANCE:
1. INSPECT AFTER EACH STORM EVENT.
2. REMOVE BUILT-UP SEDIMENT AND REPAIR/REPLACE THE SILT FENCE AS NEEDED.

ADDITIONAL CONSIDERATIONS:
1. WHEN PROTECTING SLOPES, FENCES SHOULD BE INSTALLED PARALLEL TO THE SLOPE CONTOUR.
2. ON SLOPES, THE STEEPNESS OF GRADE WILL DETERMINE THE MAXIMUM DISTANCE BETWEEN PARALLEL FENCES.

LESS THAN 2%	100 FT. MAX.
BETWEEN 2% AND 5%	75 FT. MAX.
GREATER THAN 55	ADDITIONAL SURFACE STABILIZATION SHALL BE PROVIDED







SECTION A-A

SECTION B-B

(NOT TO SCALE)

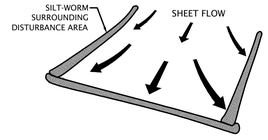
SILT-WORM

MATERIAL: SILT-WORM OR APPROVED EQUAL

DIAMETER: 9 INCHES MINIMUM

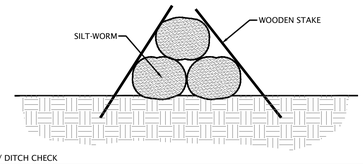
PERIMETER CONTROL

INSTALLATION:
1. PLACE SILT-WORM DIRECLY ON TOP OF GRADE FOR GRADES UNDER 12%.
2. ARRANGE PERIMETER CONTROL IN A MANNER THAT IS APPLIED PERPENDICULAR TO SHEET FLOW.
3. OVERLAP CONTIGUOUS SECTIONS OF SILT WORM AT A MINIMUM OF 6 INCHES.



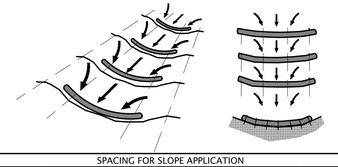
STACKING

INSTALLATION:
1. PLACE SILT-WORM DIRECTLY ON TOP OF GRADE FOR GRADES UNDER 12%.
2. STACK SILT-WORM IN A STAGGERED MANNER, AS SHOWN BELOW.
3. OVERLAP CONTIGUOUS SECTIONS OF SILT-WORM AT A MINIMUM OF 6 INCHES.



SLOPE INTERRUPTION / DITCH CHECK

INSTALLATION:
1. PLACE SILT-WORM PERPENDICULAR TO SHEET FLOW AND CURL ENDS UP TOWARD TOP OF SLOPE.
2. STAKE THE SILT-WORM EVERY 4 FEET AND OVERLAP THE ENDS BETWEEN 1 AND 2 FEET.
3. PLACE A LINE OF DEFENSE AT THE TOP OF THE SLOPE AND ANOTHER WITHIN 10 FEET FROM TOE OF SLOPE.



SPACING FOR SLOPE APPLICATION				
SLOPE	9-inch	12-inch	18-inch	24-inch
2% or less	70 ft.	80 ft.	N/A	N/A
5%	30 ft.	60 ft.	80 ft.	N/A
10%	20 ft.	30 ft.	70 ft.	80 ft.
6:1	N/A	20 ft.	40 ft.	55 ft.
4:1	N/A	20 ft.	30 ft.	30 ft.
3:1	N/A	N/A	20 ft.	25 ft.
2:1	N/A	N/A	20 ft.	20 ft.

SILT-WORM MAINTENANCE GUIDELINES

- INSPECT WITHIN 24 HOURS OF A RAIN EVENT AND AT LEAST ONCE EVERY 7 CALENDAR DAYS.
- IF SILT-WORM TEARS, STARTS TO DECOMPOSE, OR IN ANY WAY BECOMES INEFFECTIVE, REPLACE THE AFFECTED PORTION IMMEDIATELY. NOTE: ALL REPAIRS SHOULD MEET SPECIFICATIONS AS OUTLINED WITHIN THIS MEASURE.
- REMOVE DEPOSITED SEDIMENT WHEN IT IS CAUSING THE SILT-WORM TO BULGE OR WHEN IT REACHES ONE-HALF THE HEIGHT OF THE SILT-WORM AT ITS LOWEST POINT. WHEN CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED, REMOVE THE SILT-WORM AND SEDIMENT DEPOSITS, GRADE THE SITE TO BLEND WITH THE SURROUNDING AREA, AND STABILIZE.

DVG TEAM INC
1155 Troutwine Road
Crown Point, IN 46307
P: (219) 662-7710
F: (219) 662-2740
www.dvgteam.com

RUSSELL JACOB DEZEN REGISTERED NO. PE10910567 STATE OF INDIANA PROFESSIONAL ENGINEER

11/17/2023

Crew Carwash
11700 Exit 5 Parkway
Fishers, IN 46037

REVISIONS AND NOTES:	
DATE:	

111 Ridge Road Munster
Crew #63
Stormwater Pollution
Prevention Plan Details

NO SCALE

DESIGN BY	DATE
DVG	05/19/23
PROJECT NO.	
22-0538	

C302

EROSION CONTROL MEASURES (continued)

MULCHING

MATERIAL: STRAW, HAY, WOOD FIBER, CELLULOSE
OR EXCELSIOR
OR EROSION CONTROL BLANKETS
OR TURF REINFORCEMENT MATS, AS SPECIFIED IN THE EROSION AND SEDIMENT CONTROL PLAN

COVERAGE: AT LEAST 75% OF THE SOIL SURFACE

ANCHORING: REQUIRED FOR STRAW OR HAY MULCH AND SOMETIMES EXCELSIOR TO PREVENT DISPLACEMENT BY WIND AND/OR WATER

MATERIAL	RATE	COMMENTS
STRAW OR HAY	1.5 TO 2 TONS/ACRE	SHOULD BE DRY, UNCHOPPED, FREE OF UNDESIRABLE SEEDS SPREAD BY HAND OR ANCHORED MUST BE CRIMPED OR ANCHORED
WOOD FIBER OF CELLULOSE	1 TON/ACRE	APPLY WITH A HYDROMULCHER AND USE WITH TACKING AGENT
LONG FIBER WOOD (EXCELSIOR)	0.5 TO 0.75 TON/ACRE	ANCHOR IN AREAS SUBJECT TO WIND

INSTALLATION:
1. APPLY MULCH AT THE RECOMMENDED RATE.
2. SPREAD UNIFORMLY BY HAND, HAY FORK, MULCH BLOWER OR HYDROMULCHER. AFTER SPREADING, NO MORE THAN 25% OF THE GROUND SURFACE SHOULD BE VISIBLE.
3. IF STRAW OR HAY IS USED, ANCHOR IT IMMEDIATELY IN ONE OF THE FOLLOWING WAYS:

MAINTENANCE:
1. DURING VEGETATIVE ESTABLISHMENT, INSPECT AFTER STORM EVENTS FOR ANY EROSION.
2. IF ANY AREA SHOWS EROSION, REPAIR THE GRADE AND RE-APPLY "SILT STOP" POWDER AND RE-LAY AND STAPLE THE BLANKET.
3. AFTER VEGETATIVE ESTABLISHMENT, CHECK THE TREATED AREA PERIODICALLY.

ANCHORING METHOD	HOW TO APPLY
MULCH ANCHORING TOOL OR FARM DISK (DULL, SERRATED AND SET STRAIGHT)	CRIMP OR PUNCH THE STRAW OR HAY INTO THE SOIL 2 TO 4 INCHES. OPERATE MACHINERY ON THE CONTOUR OF SLOPE.
CLEATING WITH DOZER TRACKS	OPERATE DOZER UP AND DOWN SLOPE, NOT ACROSS OR ELSE THE TRACKS WILL FORM RILLS.
WOOD HYDROMULCH FIBERS	APPLY 1 TO 2 TONS/ACRE USING A HYDROMULCHER AT A RATE OF 750 LBS./ACRE WITH A TACKING AGENT (OR ACCORDING TO CONTRACTOR SPECIFICATIONS). DO NOT USE IN AREAS OF CONCENTRATED FLOW.
ASPHALT EMULSION	EMULSIFIED ASPHALT SHOULD CONFORM TO THE REQUIREMENTS OF ASTEM SPEC. #977. APPLY WITH SUITABLE EQUIPMENT AT A RATE OF 0.05 GAL/SY. DO NOT USE IN AREAS OF CONCENTRATED FLOW.
SYNTHETIC TACKIFIER, BINDER OR SOIL STABILIZER	APPLY ACCORDING TO MANUFACTURER'S RECOMMENDATIONS
BIODEGRADABLE NETTING (POLYPROPYLENE OR SIMILAR MATERIAL)*	APPLY OVER MULCH AND STAPLE WITH 6 TO 8 INCH WIRE STAPLES. FOLLOW MANUFACTURER'S RECOMMENDATIONS FOR INSTALLATION. BEST SUITED TO SLOPE APPLICATION.

* INSTALL THE NETTING IMMEDIATELY AFTER APPLYING THE MULCH. IN AREAS OF CONCENTRATED WATER FLOW, LAY NETTING PARALLEL TO THE DIRECTION OF FLOW. ON OTHER SLOPES, LAY NETTING EITHER PARALLEL OR PERPENDICULAR TO DIRECTION OF FLOW. EDGES OF ADJACENT NETTING STRIPS SHOULD OVERLAP 4 TO 6 INCHES WITH THE STRIP ON THE UPGRADE SIDE OF ANY LATERAL WATER FLOW ON TOP. INSTALLATION DETAILS ARE SITE SPECIFIC, SO FOLLOW THE MANUFACTURER'S DIRECTIONS.

MAINTENANCE:
1. INSPECT AFTER STORM EVENTS TO CHECK FOR MOVEMENT OF MULCH OR FOR EROSION.
2. IF WASHOUT, BREAKAGE, OR EROSION IS PRESENT, REPAIR THE SURFACE, THEN RE-SEED, RE-MULCH AND, IF APPLICABLE, INSTALL NEW NETTING.
3. CONTINUE INSPECTIONS UNTIL VEGETATION IS FIRMLY ESTABLISHED.

SOIL ROUGHENING

DESCRIPTION:
SOIL ROUGHENING IS A TEMPORARY EROSION CONTROL PRACTICE OFTEN USED IN CONJUNCTION WITH GRADING. SOIL ROUGHENING INVOLVES INCREASING THE RELIEF OF A BARE SOIL SURFACE WITH HORIZONTAL GROOVES BY EITHER STAIR-STEPPING (RUNNING PARALLEL TO THE CONTOUR OF THE LAND) OR USING CONSTRUCTION EQUIPMENT TO TRACK THE SURFACE. SLOPES THAT ARE NOT FINE GRADED AND LEFT IN A ROUGHENED CONDITION CAN ALSO REDUCE EROSION. SOIL ROUGHENING REDUCES RUNOFF VELOCITY, INCREASES INFILTRATION, REDUCES EROSION, TRAPS SEDIMENT, AND PREPARES THE SOIL FOR SEEDING AND PLANTING BY GIVING SEED AN OPPORTUNITY TO TAKE HOLD AND GROW.

APPLICABILITY:
SOIL ROUGHENING IS APPROPRIATE FOR ALL SLOPES, BUT WORKS ESPECIALLY WELL ON SLOPES GREATER THAN 3:1, ON PILES OF EXCAVATED SOIL, AND IN AREAS WITH HIGHLY ERODIBLE SOILS. THIS TECHNIQUE IS ESPECIALLY APPROPRIATE FOR SOILS THAT ARE FREQUENTLY DISTURBED, BECAUSE ROUGHENING IS RELATIVELY EASY. TO SLOW EROSION, ROUGHEN THE SOIL AS SOON AS POSSIBLE AFTER THE VEGETATION HAS BEEN REMOVED FROM THE SLOPE OR IMMEDIATELY AFTER GRADING ACTIVITIES HAVE CEASED (TEMPORARILY OR PERMANENTLY). USE THIS PRACTICE IN CONJUNCTION WITH SEEDING, PLANTING, AND TEMPORARY MULCHING TO STABILIZE AN AREA. A COMBINATION OF SURFACE ROUGHENING AND VEGETATION IS APPROPRIATE FOR STEEPER SLOPES AND SLOPES THAT WILL BE LEFT BARE FOR LONGER PERIODS OF TIME.

SITING AND DESIGN CONSIDERATIONS:
ROUGHENED SLOPE SURFACES HELP ESTABLISH VEGETATION, IMPROVE INFILTRATION, AND DECREASE RUNOFF VELOCITY. A ROUGH SOIL SURFACE ALLOWS SURFACE PONDING THAT PROTECTS LIME, FERTILIZER, AND SEED AND DECREASES EROSION POTENTIAL. GROOVES IN THE SOIL ARE COOLER AND PROVIDE MORE FAVORABLE MOISTURE CONDITIONS THAN HARD, SMOOTH SURFACES. THESE CONDITIONS PROMOTE SEED GERMINATION AND VEGETATIVE GROWTH.
AVOID EXCESSIVE SOIL COMPACTING, BECAUSE THIS INHIBITS VEGETATION GROWTH AND CAUSES HIGHER RUNOFF VELOCITY. LIMIT ROUGHENING WITH TRACKED MACHINERY TO SANDY SOILS THAT DO NOT COMPACT EASILY; ALSO, AVOID TRACKING ON HEAVY CLAY SOILS, ESPECIALLY WHEN WET. SEED ROUGHENED AREAS AS QUICKLY AS POSSIBLE, AND FOLLOW PROPER PROCEDURES.
DEPENDING ON THE TYPE OF SLOPE AND THE AVAILABLE EQUIPMENT, USE DIFFERENT METHODS FOR ROUGHENING SOIL ON A SLOPE. THESE INCLUDE STAIR-STEP GRADING, GROOVING, AND TRACKING. WHEN CHOOSING A METHOD, CONSIDER FACTORS SUCH AS SLOPE STEEPNESS, MOWING REQUIREMENTS, WHETHER THE SLOPE IS FORMED BY CUTTING OR FILLING, AND AVAILABLE EQUIPMENT. CHOOSE FROM THE FOLLOWING METHODS FOR SURFACE ROUGHENING:

- *CUT SLOPE ROUGHENING FOR AREAS THAT WILL NOT BE MOWED.* USE STAIR-STEP GRADES OR GROOVE-CUT SLOPES FOR GRADIENTS STEEPER THAN 3:1. USE STAIR-STEP GRADING ON ANY ERODIBLE MATERIAL THAT IS SOFT ENOUGH TO BE RIPPED WITH A BULLDOZER. ALSO, IT IS WELL SUITED FOR SLOPES CONSISTING OF SOFT ROCK WITH SOME SUBSOIL. MAKE THE VERTICAL CUT DISTANCE LESS THAN THE HORIZONTAL DISTANCE, AND SLOPE THE HORIZONTAL PORTION OF THE STEP SLIGHTLY TOWARD THE VERTICAL WALL. KEEP INDIVIDUAL VERTICAL CUTS LESS THAN 2 FEET DEEP IN SOFT MATERIALS AND LESS THAN 3 FEET DEEP IN ROCKY MATERIALS.
- *GROOVING*. THIS TECHNIQUE USES MACHINERY TO CREATE A SERIES OF RIDGES AND DEPRESSIONS THAT RUN ACROSS THE SLOPE ALONG THE CONTOUR. MAKE GROOVES USING ANY APPROPRIATE IMPLEMENT THAT CAN BE SAFELY OPERATED ON THE SLOPE, SUCH AS DISKS, TILLERS, SPRING HARROWS, OR THE TEETH ON A FRONT-END LOADER BUCKET. MAKE THE GROOVES LESS THAN 3 INCHES DEEP AND LESS THAN 15 INCHES APART.
- *FILL SLOPE ROUGHENING FOR AREAS THAT WILL NOT BE MOWED.* FILL SLOPES WITH A GRADIENT STEEPER THAN 3:1 SHOULD BE PLACED IN LIFTS LESS THAN 9 INCHES, AND PROPERLY COMPACT EACH LIFT. THE FACE OF THE SLOPE SHOULD CONSIST OF LOOSE, UNCOMPACTED FILL 4 TO 6 INCHES DEEP. IF NECESSARY, ROUGHEN THE FACE OF THE SLOPES BY GROOVING THE SURFACE AS DESCRIBED ABOVE. DO NOT BLADE OR SCRAPE THE FINAL SLOPE FACE.
- *CUTS, FILLS, AND GRADED AREAS THAT WILL BE MOWED.* MAKE MOWED SLOPES NO STEEPER THAN 3:1. ROUGHEN THESE AREAS WITH SHALLOW GROOVES LESS THAN 10 INCHES APART AND DEEPER THAN 1 INCH USING NORMAL TILLING, DISKING, OR HARROWING EQUIPMENT (A CULTIPACKER-SEEDER CAN ALSO BE USED). EXCESSIVE ROUGHNESS IS UNDESIRABLE WHERE MOWING IS PLANNED.
- *ROUGHENING WITH TRACKED MACHINERY*. TO AVOID UNDUE COMPACTION OF THE SOIL SURFACE, LIMIT ROUGHENING WITH TRACKED MACHINERY ONLY TO SANDY SOILS. OPERATE TRACKED MACHINERY PERPENDICULARLY TO THE SLOPE TO LEAVE HORIZONTAL DEPRESSIONS IN THE SOIL. TRACKING IS GENERALLY NOT AS EFFECTIVE AS OTHER ROUGHENING METHODS.

LIMITATIONS:
SOIL ROUGHENING IS NOT APPROPRIATE FOR ROCKY SLOPES. TRACKED MACHINERY CAN EXCESSIVELY COMPACT THE SOIL. TYPICALLY, SOIL ROUGHENING IS EFFECTIVE ONLY FOR GENTLE OR SHALLOW DEPTH RAINS. IF ROUGHENING IS WASHED AWAY IN A HEAVY STORM, RE-ROUGHEN THE SURFACE AND RESEED.

MAINTENANCE CONSIDERATIONS:
INSPECT ROUGHENED AREAS AFTER STORMS TO SEE IF RE-ROUGHENING IS NEEDED. REGULAR INSPECTION SHOULD INDICATE WHERE ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES ARE NEEDED. IF RILLS (SMALL WATERCOURSES THAT HAVE STEEP SIDES AND ARE USUALLY ONLY A FEW INCHES DEEP) APPEAR, FILL, REGRADE, AND RESEED THEM IMMEDIATELY. USE PROPER METHODS.

EFFECTIVENESS:
SOIL ROUGHENING PROVIDES MODERATE EROSION PROTECTION FOR BARE SOILS WHILE VEGETATIVE COVER IS BEING ESTABLISHED. IT IS INEXPENSIVE AND SIMPLE FOR SHORT-TERM EROSION CONTROL WHEN USED WITH OTHER EROSION AND SEDIMENT CONTROLS.

TOPSOIL (SALVAGE AND UTILIZATION)

SALVAGING AND STOCKPILING:
1. DETERMINE DEPTH AND SUITABILITY OF TOPSOIL AT THE SITE.
2. PRIOR TO STRIPPING TOPSOIL, INSTALL ANY SITE-SPECIFIC DOWNSLOPE PRACTICES NEEDED TO CONTROL RUNOFF AND SEDIMENTATION.
3. REMOVE THE SOIL MATERIAL NO DEEPER THAN WHAT THE COUNTY SOIL SURVEY DESCRIBES AS "SURFACE SOIL" (i.e., A OR AP HORIZON).
4. STOCKPILE THE MATERIAL IN ACCESSIBLE LOCATIONS THAT NEITHER INTERFERE WITH OTHER CONSTRUCTION ACTIVITIES NOR BLOCK NATURAL DRAINAGE; AND INSTALL SILT FENCES, STRAW BALES, OR OTHER BARRIERS TO TRAP SEDIMENT. (SEVERAL SMALLER PILES AROUND THE CONSTRUCTION SITE ARE USUALLY MORE EFFICIENT AND EASIER TO CONTAIN THAN ONE LARGE PILE.)
5. IF SOIL IS STOCKPILED FOR MORE THAN 6 MOS., IT SHOULD BE TEMPORARILY SEEDED OR COVERED WITH A TARP OR SURROUNDED BY A SEDIMENT BARRIER.

SPREADING TOPSOIL:
1. PRIOR TO APPLYING TOPSOIL, GRADE THE SUBSOIL AND ROUGHEN THE TOP 3-4 IN. BY DISKING. THIS HELPS THE TOPSOIL BOND WITH THE SUBSOIL.
2. DO NOT APPLY TOPSOIL WHEN THE SITE IS WET, MUDDY OR FROZEN, BECAUSE IT MAKES SPREADING DIFFICULT, INHIBITS BONDING, AND CAN CAUSE COMPACTION PROBLEMS.
3. APPLY TOPSOIL EVENLY TO A DEPTH OF AT LEAST 4 IN. (8-12 IN. IF THE UNDERLYING MATERIAL IS BEDROCK, LOOSE SAND, ROCK FRAGMENTS, GRAVEL OR OTHER UNSUITABLE SOIL MATERIAL) COMPACT SLIGHTLY TO IMPROVE CONTACT WITH THE SUBSOIL.
4. AFTER SPREADING, GRADE AND STABILIZE.

MAINTENANCE:
2. INSPECT NEWLY TOPSOILED AREAS FREQUENTLY UNTIL VEGETATION IS ESTABLISHED.
3. REPAIR ERODED OR DAMAGED AREAS AND REPLANT.

TEMPORARY SEEDING

SITE PREPARATION:
1. THESE INSTALLATION PRACTICES ARE NEEDED TO CONTROL EROSION, SEDIMENTATION, AND WATER RUNOFF, SUCH AS TEMPORARY AND PERMANENT DIVERSIONS, SEDIMENT TRAPS OR BASINS, SILT FENCES, AND TRIANGULAR SILT DIKES.
2. GRADE THE SITE AS SPECIFIED IN THE CONSTRUCTION PLAN.

SEEDBED PREPARATION:
1. FERTILIZE AS REQUIRED.
2. WORK THE FERTILIZER INTO THE SOIL 2-4 IN. DEEP WITH A DISK OR RAKE OPERATED ACROSS THE SLOPE

SEEDING:
1. SELECT A SEEDING MIXTURE AND RATE FROM THE TABLE AND PLANT AT DEPTH AND ON DATES SHOWN.
2. APPLY SEED UNIFORMLY WITH A DRILL OR CULTIPACKER-SEEDER OR BY BROADCASTING, AND COVER TO THE DEPTH SHOWN.
3. IF DRILLING OR BROADCASTING, FIRM THE SEEDBED WITH A ROLLER OR CULTIPACKER.
4. MULCH SEEDED AREAS TO INCREASE SEEDING SUCCESS.
5. SEED ALL AREAS OF BARE SOIL THAT WILL REMAIN INACTIVE FOR 14 DAYS OR MORE

1. MAINTENANCE
2. INSPECT PERIODICALLY AFTER PLANTING TO SEE THAT VEGETATIVE STANDS ARE ADEQUATELY ESTABLISHED, RE-SEED IF NECESSARY. CHECK FOR EROSION DAMAGE AFTER STORM EVENTS AND REPAIR, RESEED AND MULCH IF NECESSARY.
3. TOP-DRESS FALL SEEDED WHEAT OR RYE SEEDING WITH 50 LBS./ACRE OF NITROGEN IN FEBRUARY OR MARCH IF NITROGEN DEFICIENCY IS APPARENT. TEMPORARY SEEDING RECOMMENDATIONS

TEMPORARY SEEDING RECOMMENDATIONS:

SEED SPECIES	RATE/ACRE	PLANTING DEPTH	OPTIMUM DATES**
WHEAT OR RYE	150 LBS.	1 TO 1.5 INCHES	SEPTEMBER 15 TO OCTOBER 30
SPRING OATS	100 LBS.	1 INCH	MARCH 1 TO APRIL 15
ANNUAL RYEGRASS	40 LBS.	0.25 INCH	MARCH 1 TO MAY 1 AUGUST 1 TO SEPTEMBER 1
GERMAN MILLET	40 LBS.	1 TO 2 INCHES	MAY 1 TO JUNE 1
SUDANGRASS	35 LBS.	1 TO 2 INCHES	MAY 1 TO JULY 30

* PERENNIAL SPECIES MAY BE USED AS A TEMPORARY COVER, ESPECIALLY IF THE AREA TO BE SEEDED WILL REMAIN IDLE FOR MORE THAN A YEAR
** SEEDING DONE OUTSIDE THE OPTIMUM DATES INCREASES THE CHANCE OF SEEDING FAILURE

PERMANENT SEEDING

PERMANENTLY SEED ALL FINAL GRADE AREAS (E.G., LANDSCAPE BERMS, DRAINAGE SWALES, EROSION CONTROL STRUCTURES, ETC.) AS EACH IS COMPLETED AND ALL AREAS WHERE ADDITIONAL WORK IS NOT SCHEDULED FOR A PERIOD OF MORE THAN A YEAR.

SITE PREPARATION:
1. THESE INSTALLATION PRACTICES ARE NEEDED TO CONTROL EROSION, SEDIMENTATION, AND WATER RUNOFF, SUCH AS TEMPORARY AND PERMANENT DIVERSIONS, SEDIMENT TRAPS OR BASINS, SILT FENCES, AND TRIANGULAR SILT DIKES.
2. GRADE THE SITE AS SPECIFIED IN THE CONSTRUCTION PLAN AND FILL IN DEPRESSIONS THAT CAN COLLECT WATER.
3. ADD TOPSOIL TO ACHIEVE NEEDED DEPTH FOR ESTABLISHMENT OF VEGETATION.

SEEDBED PREPARATION:
1. FERTILIZE AS REQUIRED.
2. TILL THE SOIL TO OBTAIN A UNIFORM SEEDBED, WORKING THE FERTILIZER INTO THE SOIL 2-4 IN. DEEP WITH A DISK OR RAKE OPERATED ACROSS THE SLOPE.

SEEDING:
OPTIMUM SEEDING DATES ARE MARCH 1-MAY 10 AND AUGUST 10-SEPTEMBER 30. PERMANENT SEEDING DONE BETWEEN MAY 10 AND AUGUST 10 MAY NEED TO BE IRRIGATED. AS AN ALTERNATIVE, USE TEMPORARY SEEDING UNTIL THE PREFERRED DATE FOR PERMANENT SEEDING.
1. SELECT A SEEDING MIXTURE AND RATE FROM THE TABLE AND PLANT AT DEPTH AND ON DATES SHOWN.
2. APPLY SEED UNIFORMLY WITH A DRILL OR CULTIPACKER-SEEDER OR BY BROADCASTING, AND COVER TO THE DEPTH SHOWN.
3. IF DRILLING OR BROADCASTING, FIRM THE SEEDBED WITH A ROLLER OR CULTIPACKER.
4. MULCH SEEDED AREAS. USE EROSION CONTROL BLANKETS ON SLOPING AREAS. IF SEEDING IS DONE WITH A HYDROSEEDER, FERTILIZER AND MULCH CAN BE APPLIED WITH THE SEED IN A SLURRY MIXTURE.

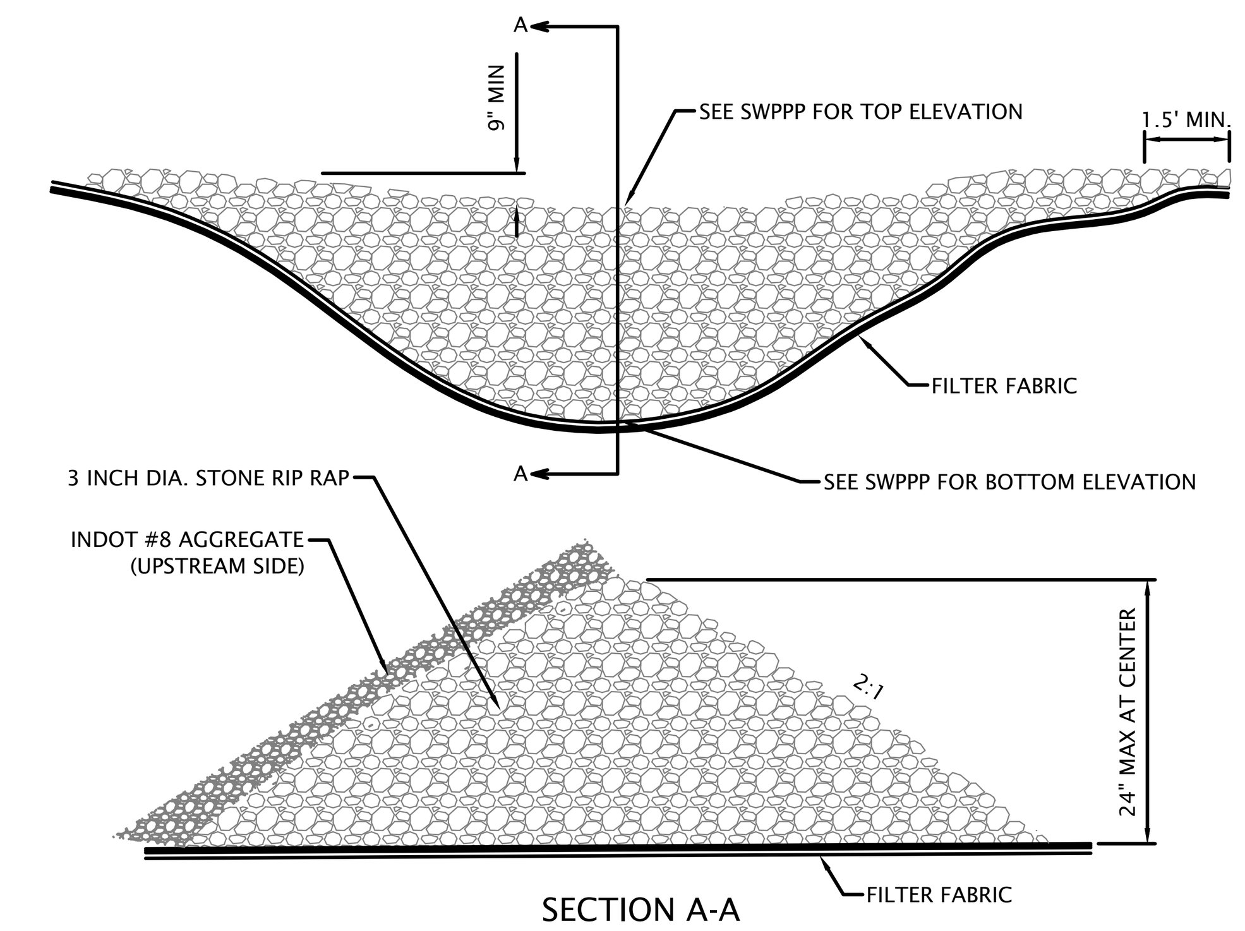
MAINTENANCE
1. INSPECT PERIODICALLY AFTER PLANTING TO SEE THAT VEGETATIVE STANDS ARE ADEQUATELY ESTABLISHED, RE-SEED IF NECESSARY.
2. CHECK FOR EROSION DAMAGE AFTER STORM EVENTS AND REPAIR, RESEED AND MULCH IF NECESSARY.

PERMANENT SEEDING RECOMMENDATIONS
THIS TABLE PROVIDES SEVERAL SEEDING OPTIONS. ADDITIONAL SEED SPECIES AND MIXTURES ARE AVAILABLE COMMERCIALLY. WHEN SELECTING A MIXTURE, CONSIDER SITE CONDITIONS, INCLUDING SOIL PROPERTIES (E.G., SOIL PH AND DRAINAGE), SLOPE ASPECT AND THE TOLERANCE OF EACH SPECIES TO SHADE AND DROUGHT.

SEED SPECIES AND MIXTURES	RATE/ACRE	OPTIMUM SOIL pH
OPEN AND DISTURBED AREAS (REMAINING IDLE FOR MORE THAN ONE YEAR)		
PERENNIAL RYEGRASS + WHITE OR LADINO DOVER	30 TO 50 LBS. 1 TO 2 LBS.	5.6 TO 7.0
KENTUCKY BLUEGRASS + SMOOTH BROMEGRASS + SWITCHGRASS + TIMOTHY + PERENNIAL RYEGRASS + WHITE OR LADINO DOVER	20 LBS. 10 LBS. 3 LBS. 4 LBS. 10 LBS. 1 TO 2 LBS.	5.5 TO 7.5

RUNOFF CONTROL MEASURES

RIP-RAP CHECK DAMS



SECTION A-A
(NOT TO SCALE)

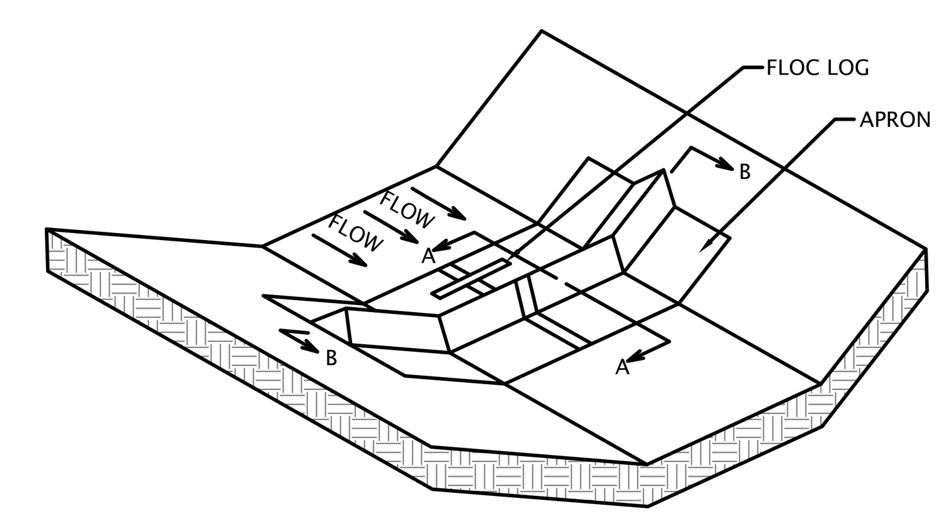
MAINTENACE:
1. INSPECT AFTER EACH STORM EVENT.
2. REMOVE BUILT-UP SEDIMENT AND REPAIR/REPLACE THE CHECK DAMS AS NEEDED.

TRIANGULAR SILT FENCE DIKE - CHECK DAMS

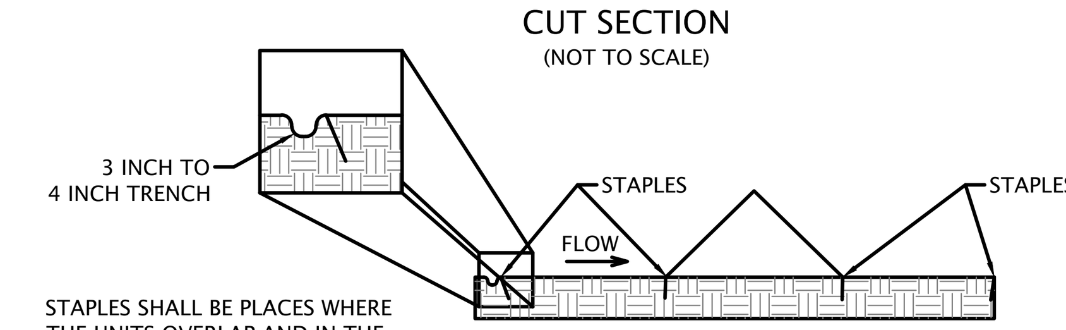
MATERIAL: THE TRIANGULAR-SHAPED INNER MATERIAL SHALL BE URETHANE FORM. THE OUTER COVER SHALL BE A WOVEN GEOTEXTILE FABRIC PLACED AROUND THE INNER MATERIAL AND ALLOWED TO EXTEND BEYOND BOTH SIDES OF THE TRIANGLE 2 TO 3 FEET.

ANCHORING: THE DIKES SHALL BE ATTACHED TO THE GROUND WITH WIRE STAPLES. THE STAPLES SHALL BE #11 GAUGE WIRE AND BE AT LEAST 6 TO 8 INCHES LONG. STAPLES SHALL BE PLACED AS INDICATED ON THE INSTALLATION DETAIL.

INSTALLATION:
1. PLACE TRIANGULAR SILT FENCE DIKE AS REQUIRED.
2. ATTACHED DIKES TO THE GROUND WITH STAPLES AS INDICATED ON THE DETAIL.

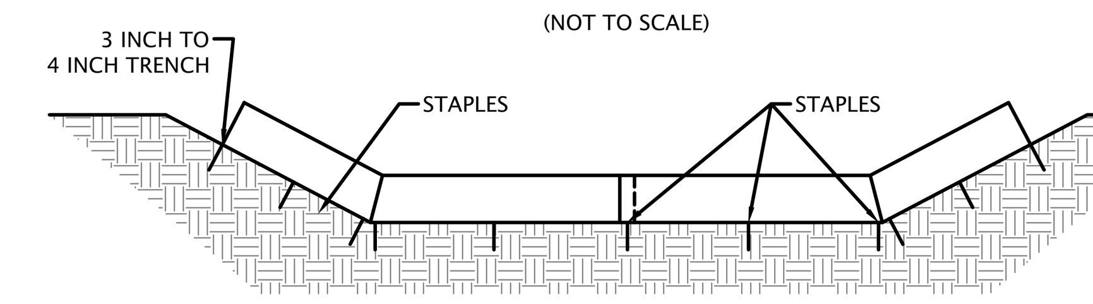


SILT DIKE UNIT
CUT SECTION
(NOT TO SCALE)



STAPLES SHALL BE PLACES WHERE THE UNITS OVERLAP AND IN THE CENTER OF THE 7 FT. UNIT AS SHOWN ON THE DIAGRAM

SECTION A-A
(NOT TO SCALE)



POINT "1" MUST BE HIGHER THAN POINT "2" TO ENSURE THAT WATER FLOWS OVER THE DIKE AND NOT AROUND THE ENDS

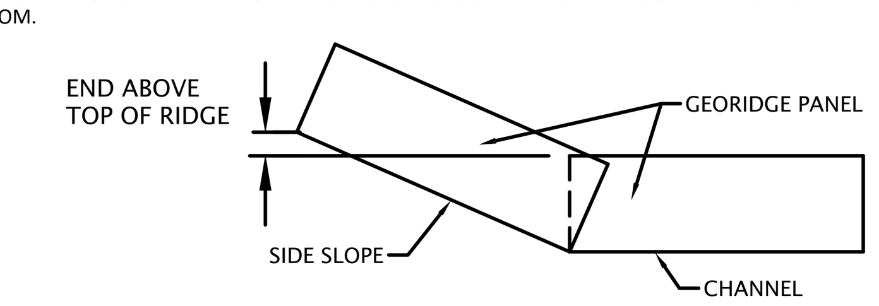
DIKE SECTION
SECTION B-B
(NOT TO SCALE)

MAINTENACE:
1. INSPECT AFTER EACH STORM EVENT.
2. REMOVE BUILT-UP SEDIMENT AND REPAIR/REPLACE THE CHECK DAMS AS NEEDED.

GEORIDGE DITCH BERM - CHECK DAMS

MATERIAL: GEORIDGE OR GEORIDGE BIO BY NILEX PRODUCTS, AN HDPE PRODUCT THAT SERVES TO DISSIPATE WATER ENERGY WITHIN A DITCH OR CHANNEL. GEORIDGE IS TO BE USED IN APPLICATIONS WHERE THE MEASURE WILL BE REMOVED AFTER THE CHANNEL IS STABILIZED. GEORIDGE BIO CAN BE USED WHEN THE MEASURE CAN BE LEFT TO DECOMPOSE IN LIEU OF BEING REMOVED.

INSTALLATION:
1. PLACE AN EROSION CONTROL BLANKET (ECB), LAID PARALLEL WITH THE CHANNEL DIRECTION, IN THE AREA WHERE THE GEORIDGE IS TO BE PLACED. ECB SHALL BE APPROPRIATE FOR THE CHANNEL SLOPE, VOLUME AND VELOCITY.
ECB SHALL BE SECURED WITH A 4" TRENCH AT THE UPSTREAM EDGE, WITH MINIMUM 6-INCH STAPLES PLACED 21-INCH O.C. ALONG THE UPSTREAM AND DOWNSTREAM EDGES.
2. PLACE GEORIDGE BERM IN THE MIDDLE OF THE ECB, PERPENDICULAR TO THE CHANNEL FLOW DIRECTION, AND ANCHOR WITH 10-INCH SPIRAL SPIKES. A MINIMUM OF 3 ANCHORS SHALL BE USED ON THE UPSTREAM SIDE AND 2 ANCHORS ON THE DOWNSTREAM SIDE.
IF MORE THAN ONE GEORIDGE BERM PANEL IS REQUIRED TO SPAN THE CHANNEL, LINE UP THE ANCHORING HOLES FOR INSTALLATION OF THE ANCHORS.
3. WHEN PLACING THE GEORIDGE PANEL ON THE SIDE SLOPE OF THE CHANNEL, THE BOTTOM OF THE PANELS SHOULD MEET WITH THE RIDGE BEING OVERLAPPED. THIS WILL PREVENT WATER FROM PASSING THROUGH THE BERM.
ADDITIONALLY, THE OUTSIDE EDGE OF THE PANEL ON THE SIDE SLOPE SHOULD BE INSTALLED SO THAT IT IS HIGHER THAN THE TOP OF THE PANEL IN THE CHANNEL BOTTOM.



4. THE SPACING IS CALCULATED BY DIVIDING THE HEIGHT OF THE GEORIDGE BY THE GRADIENT OF THE CHANNEL SLOPE.
9-INCH / 0.0.2 GRADIENT = 450 INCHES OR 37.5 FEET

MAINTENANCE
1. INSPECT AFTER EACH STORM EVENT.
2. REMOVE BUILT-UP SEDIMENT WHEN IT REACHES HALF THE HEIGHT OF THE GEORIDGE.
3. REPAIR/REPLACE THE GEORIDGE AND THE EROSION CONTROL MAT AS NEEDED.

SEDIMENT CONTROL MEASURES

POLYMER SYSTEMS

MATERIAL: APS 700 SERIES FLOC LOG OR EQUAL

INSTALLATION:
1. THE FLOC LOG VENDOR SHALL SAMPLE THE WATER THAT IS TO BE TREATED WITH THE SYSTEM. THIS SAMPLE SHALL BE USED TO DETERMINE THE SITE-SPECIFIC POLYMER MIX THAT SHOULD BE USED.
2. IN APPLICATIONS WHERE THE OBJECTIVE OF THIS MEASURE IS TO MEET THE TOTAL SUSPENDED SOLIDS REQUIREMENTS PRIOR TO COMPLETION OF THE DETENTION POND; I.E. THE SIDE SLOPES ARE NOT FULLY STABILIZED, DEWATERING THE POND FOR FURTHER EXPANSION, ETC., THE FLOC LOG SHOULD BE INSTALLED AT THE END OF THE OUTFALL PIPE AND A TEMPORARY MATERIAL SUCH AS GEOJUTE SHOULD BE PLACED DOWNSTREAM OF THE FLOC LOG PROVIDING A SEDIMENT SETTLING AREA. (SEE PLANS FOR SPECIFIC INSTALLATION LOCATIONS)
3. IN APPLICATIONS WHERE THE OBJECTIVE OF THIS MEASURE IS TO MEET THE TOTAL SUSPENDED SOLIDS REQUIREMENTS AFTER THE DETENTION POND IS COMPLETED, THE FLOC LOG SHOULD BE INSTALLED AT THE END OF THE INLET PIPES INTO THE DETENTION POND. THIS WILL CAUSE THE SEDIMENT TO SETTLE MORE QUICKLY IN THE WET DETENTION POND, PROVIDING A CLEANER DISCHARGE. (SEE PLANS FOR SPECIFIC INSTALLATION LOCATIONS).
4 FOLLOWING THE USE OF THE FLOC LOG, THE SETTLED SEDIMENT WILL NEED TO BE REMOVED. THIS TEMPORARY SETTLING MEDIA REMOVED, OR THE DETENTION POND MIGHT NEED TO BE CLEANED IF SEDIMENT SETTLING HAS SIGNIFICANTLY REDUCED THE POND VOLUME.

MAINTENANCE:
1. INSPECT AFTER STORM EVENTS TO CHECK FOR MOVEMENT OF MULCH OR FOR EROSION.
2. IF WASHOUT, BREAKAGE, OR EROSION IS PRESENT IN THE SEDIMENT SETTLING MEDIA, REPAIR THE MEDIA.
3. BE SURE THE FLOC LOG IS SECURE ATTACHED AT THE INSTALLED LOCATION, VERIFY THAT STORM WATER IS HAVING CONTACT WITH THE FLOC LOG.

FIBER ROLLS

MATERIAL: TUBE SHAPED FIBER ROLLS FILLED WITH STRAW, FLAX, RICE, COCONUT FIBER MATERIAL, MULCH, OR COMPOSTED MATERIAL. EACH ROLL IS WRAPPED WITH UV-DEGRADABLE POLYPROPYLENE NETTING FOR LONGEVITY OR WITH 100 PERCENT BIODEGRADABLE MATERIALS LIKE BURLAP, JUTE, OR COIR.

INSTALLATION:
1. INSTALL ROLLS PARALLEL WITH THE SLOPE CONTOUR, WITH THE ENDS SLIGHTLY LOWER THAN THE MID-SECTION, TO PREVENT WATER PONDING AT THE MID-SECTION. TURN THE ENDS SLIGHTLY UPSLOPE TO PREVENT WATER FROM BYPASSING THE MEASURE.
2. EXCAVATE A TRENCH WITH A WIDTH AND DEPTH EQUAL TO ONE-FOURTH THE DIAMETER OF THE LOG.
3. WHERE APPLICABLE INSTALL THE MEASURE UPSLOPE OF A CURB OR SIDEWALK. PLACING THE MEASURE AGAINST THE CURB WILL PROVIDE ADDITIONAL STABILITY AND RESISTANCE TO SURFACE FLOW.
4. PLACE ROLLS END TO END TO FORM A CONTINUOUS BARRIER.
5. HARDWOOD STAKES SHALL BE DRIVEN THROUGH THE ROLLS, SPACED NO GREATER THAN 5' TO A DEPTH OF 18".
6. THE FIBER ROLLS SHOULD BE FASTENED TO THE HARDWOOD STAKES WITH ROPE.
7. BACKFILL THE TRENCH WITH EXCAVATED SOIL TO GROUND LEVEL ON THE DOWN-SLOPE SIDE AND 2" ABOVE GROUND LEVEL ON THE UP-SLOPE SIDE OF THE ROLL.

MAINTENANCE:
1. THE ROLLS SHOULD BE INSPECTED WEEKLY AND AFTER EACH RAINFALL EVENT. INSPECTION SHOULD INCLUDE IF THE MATERIAL'S DIAMETER IS LESS THAN SPECIFICATION AND IF THE OUTER NETTING HAS BEEN DEGRADED OR BROKEN.
2. REMOVE ACCUMULATED SEDIMENT WHEN IT REACHES ONE-QUARTER OF THE HEIGHT OF THE ROLL.
3. REPAIR ERODED AND DAMAGED AREAS.
4. IF PONDING BECOMES EXCESSIVE, ROLLS SHOULD BE REMOVED AND EITHER RECONSTRUCTED OR NEW PRODUCT INSTALLED.

SEDIMENT BASINS/DETENTION PONDS

MATERIAL: DEPRESSIONAL AREAS CONSTRUCTED AT THE OUTFALL OF PIPES, END OF CHANNELS, OR END OF SURFACE SHEET FLOW, WHICH SERVES TO SETTLE OUT THE SUSPENDED SOLIDS.

INSTALLATION:
1. AT LOCATIONS SHOWN ON THE PLANS, THE CONTRACTOR SHALL EXCAVATE A SMALL BASIN. THE BASIN SIZE SHALL BE SHOWN ON THE PLANS AND IS DETERMINED BY THE VOLUME OF WATER TRIBUTARY TO THE BASIN. THE BASIN OVERFLOW ELEVATION SHALL BE LOWER THAN THE INCOMING WATER, BY A MINIMUM OF 12 INCHES.
2. THE BASIN SHALL BE LINED WITH A GEOTEXTILE FABRIC, 9" OF 4" RIPRAP SHALL BE PLACED ALL AROUND THE INSIDE OF THE BASIN.

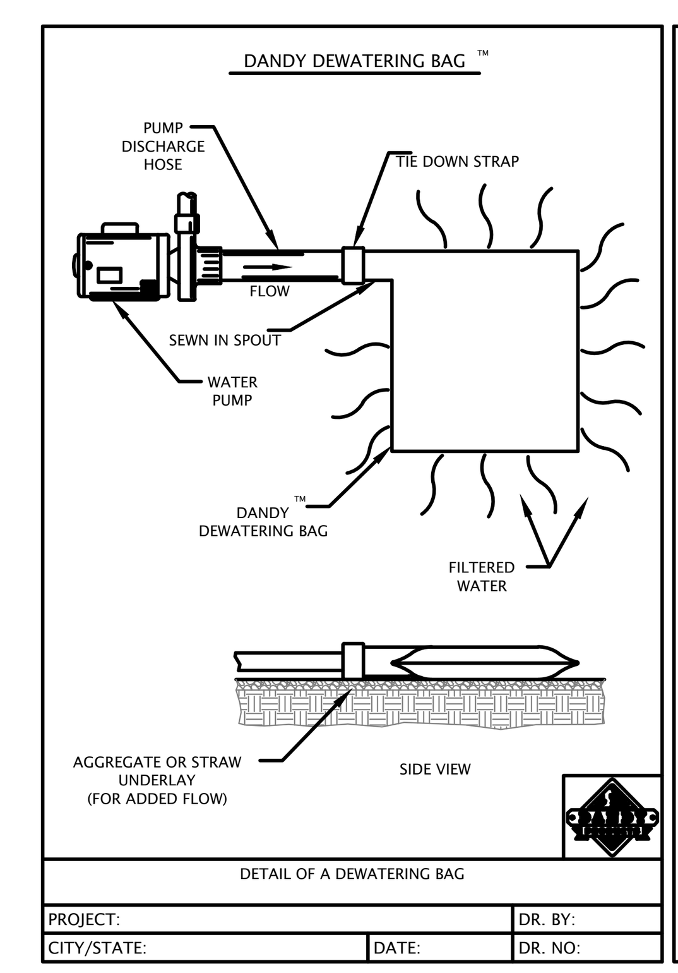
MAINTENANCE:
1. THE BASINS SHOULD BE INSPECTED WEEKLY AND AFTER EACH RAINFALL EVENT.
2. REPLACE AND RESTORE ANY BASIN BANK EROSION.
3. REPAIR OR REPLACE ANY DISPLACED RIPRAP.
4. RE-EXCAVATE AND REPLACE THE BASIN WHEN IT BECOMES MORE THAN 50% FULL OF SEDIMENT.

DEWATERING BAGS

MATERIAL: "DANDY" DE-WATERING BAG OR "PUMP-IT" DE-WATERING BAG

INSTALLATION:
1. INSTALL AT LOCATION OF THE DEWATERING PUMP OUTFALL.
2. SIZE THE BAG T THE DISCHARGE RATE. THE MAXIMUM BAG SIZE MAY LIMIT THE DISCHARGE RATE OF THE PUMP.
3. CONNECT BAG TO PUMP OUTFALL PER MANUFACTURER'S INSTRUCTIONS.
4. INSTALL BAG UPSTREAM OF THE RECEIVING STRUCTURE LOCATION.
5. OUTLET TO GRASS AREA IF POSSIBLE

MAINTENANCE:
1. THE BASINS SHOULD BE INSPECTED PRIOR TO EACH USE.
2. REPLACE BAG WHEN IT IS HALF FULL.



DANDY DEWATERING BAG™
SPECIFICATIONS

NOTE: THE DANDY DEWATERING BAG™ WILL BE MANUFACTURED IN THE U.S.A. FROM A NONWOVEN POLYPROPYLENE FABRIC THAT MEETS OR EXCEEDS THE FOLLOWING SPECIFICATIONS:

DANDY DEWATERING BAG™

Mechanical Properties	Test Method	Units	MARV
Grab Tensile Strength	ASTM D 4632	kN (lbs)	0.9 (205) x 0.9 (205)
Grab Tensile Elongation	ASTM D 4632	%	50 x 50
Puncture Strength	ASTM D 4833	kN (lbs)	0.58 (130)
Mullen Burst Strength	ASTM D 3786	kPa (psi)	2618 (380)
Trapezoid Tear Strength	ASTM D 4533	kN (lbs)	0.36 (80) X 0.36 (80)
UV Resistence	ASTM D 4355	%	70
Apparent Opening Size	ASTM D 4751	Mm (US Std Sieve)	0.180 (80)
Flow Rate	ASTM D 4491	$1/min/m^2$ $(gal/min/ft^2)$	3866 (95)
Permittivity	ASTM D 4491	Sec^{-1}	1.2

DVG TEAM INC
1155 Troutwine Road
Crown Point, IN 46307
P: (219) 662-7710
F: (219) 662-2740
www.dvgteam.com

RUSSELL JACOB POZEN
REGISTERED
NO. PE10910667
STATE OF INDIANA
PROFESSIONAL ENGINEER
11/17/2023

Crew Carwash
11700 Exit 5 Parkway
Fishers, IN 46037

DATE:	REVISIONS AND NOTES:

111 Ridge Road Munster
Crew #63
Stormwater Pollution
Prevention Plan Details

NO SCALE

DESIGN BY	DATE
DVG	05/19/23

PROJECT NO.
22-0538

C303

SEDIMENT CONTROL MEASURES (continued)

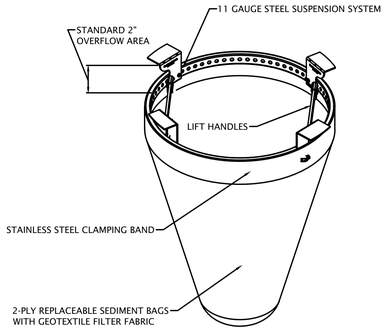
INLET PROTECTION

MATERIAL: FLEXSTORM CATCH-IT BY ADS, INC. OR APPROVED EQUAL.
ADS CAN BE CONTACTED AT (866) 287-8655

CAPACITY:

SPECIFICATIONS FOR STANDARD BAGS BY NOMINAL SIZE			
Nominal Bag Size	Solids Storage (CuFt)	Filtered Flow Rate at 50% Max (CFS) FX (Woven)	IL (NonWoven)
Small	1.6	1.2	0.9
Medium	2.1	1.7	1.3
Large	3.8	2.7	1.9
XL	4.2	3.6	2.6

INSTALLATION:
1. REMOVE GRATE; INSTALL PRIOR TO LAND DISTURBING ACTIVITIES AND/OR IMMEDIATELY AFTER DRAINAGE STRUCTURES HAVE BEEN INSTALLED
2. DROP INLET PROTECTION ONTO LOAD BEARING LIP OF CASTING OR CONCRETE STRUCTURE.
3. REPLACE GRATE.



(NOT TO SCALE)

INLET PROTECTION - CURB BASKET

CONTRIBUTING DRAINAGE AREA: 0.25 ACRE MAXIMUM

LOCATION: AT CURB INLETS WHERE BARRIERS SURROUNDING THEM WOULD BE IMPRACTICAL OR UNSAFE

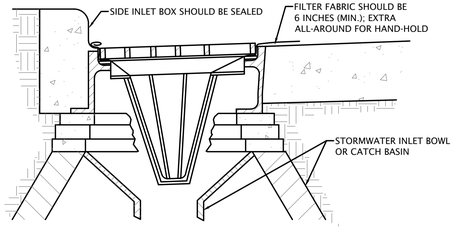
MATERIAL: D2 CATCH-ALL INLET PROTECTOR OR APPROVED EQUAL
D2 LAND & WATER RESOURCE (WWW.D2LWR.COM OR 800-597-2180)

CAPACITY: RUNOFF FROM A 2-YEAR FREQUENCY, 24-HOUR DURATION STORM EVENT ENTERING A STORM DRAIN WITHOUT BYPASS FLOW

BASKET: FABRICATED METAL WITH TOP WDITH/LENGTH DIMENSIONS SUCH THAT THE BASKET FITS INTO THE INLET WITHOUT GAPS

GEOTEXTILE FABRIC: FOR FILTRATION

INSTALLATION:
1. INSTALL BASKET CURB INLET PROTECTIONS AS SOON AS INLET BOXES ARE INSTALLED IN THE NEW DEVELOPMENT OR BEFORE LAND-DISTURBING ACTIVITIES BEGIN IN A STABILIZED AREA.
2. IF NECESSARY, ADAPT BASKET DIMENSIONS TO FIT INLET BOX DIMENSIONS, WHICH VARY ACCORDING TO THE MANUFACTURER AND/OR MODEL.
3. SEAL THE SIDE INLETS ON THOSE TYPES OF INLET BOXES THAT HAVE THEM.
4. REMOVE THE GRATE AND PLACE THE BASKET IN THE INLET.
5. CUT AND INSTALL A PIECE OF FILTER FABRIC LARGE ENOUGH TO LINE THE INSDE OF THE BASKET AND EXTEND AT LEAST 6 INCHES BEYOND THE FRAM.
6. REPLACE THE INLET GRATE, WHICH ALSO SERVES TO ANCHOR THE FABRIC.



(NOT TO SCALE)

MAINTENANCE:
1. INSPECT AFTER EACH STORM EVENT.
2. REMOVE BUILT-UP SEDIMENT AND REPAIR (OR REPLACE IF NECESSARY) THE GEOTEXTILE FABRIC AFTER EACH STORM EVENT.
3. PERIODICALLY REMOVE SEDIMENT AND TRACKED-ON SOIL FROM THE STREET (BUT NOT BY FLUSHING WITH WATER) TO REDUCE THE SEDIMENT LOAD ON THIS CURB INLET PRACTICE.

COMMON CONCERNS:
1. SEDIMENT NOT REMOVED AND GEOTEXTILE FABRIC NOT REPLACED FOLLWING A STORM EVENT RESULTS IN INCREASED SEDIMENT, TRACKING, TRAFFIC HAZARD, AND EXCESSIVE PONDING.
2. GEOTEXTILE FABRICE PERMITTIVITY THAT IS TOO LOW RESULTS IN RAPID CLOGGING AND CAUSES SEVERE PONDING WITH SEDIMENT ENTERING THE DRAIN IF THE FABRIC BREAKS.
3. DRAINAGE AREA TOO LARGE RESULTS IN SEDIMENT OVERLAOD AND SEVERE PONDING; SEDIMENT ENTERS THE DRAIN IF FABRIC BREAKS.

TEMPORARY CONSTRUCTION ENTRANCE/EXIT PAD

MATERIAL: 2 TO 3 INCHES OF WASHED STONE (INDOT #2 AGGREGATE) OVER A STABLE FOUNDATION

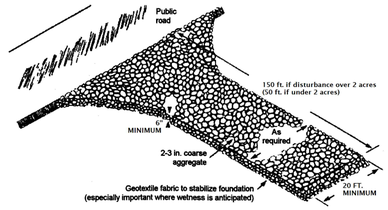
THICKNESS: 6 INCHES MINIMUM

WIDTH: 20 FEET MINIMUM OR FULL WIDTH OF ENTRANCE/EXIT ROADWAY, WHICHEVER IS GREATER

LENGTH: 150 FEET MINIMUM (50 FEET MINIMUM IF SITE DISTURBANCE IS UNDER 2.0 ACRES)

WASHING FACILITY: LEVEL AREA WITH 3 INCHES OF WASHED STONE (MINIMUM) OR A COMMERCIAL RACK AND WASTE WATER DIVERTED TO A SEDIMENT TRAP OR BASIN (PRACTICE 3.72)

GEOTEXTILE FABRIC UNDERLINER: MAY BE USED UNDER WET CONDITIONS OR FOR SOILS WITHIN A HIGH SEASONAL WATER TABLE TO PROVIDE GREATER BEARING STRENGTH



(NOT TO SCALE)

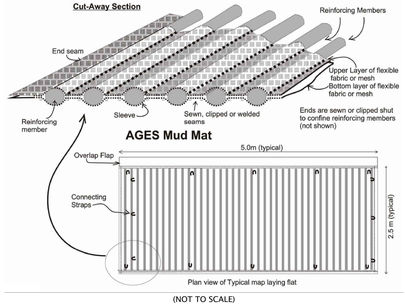
INSTALLATION:
1. AVOID LOCATING ON STEEP SLOPES OR AT CURVES IN PUBLIC ROADS.
2. REMOVE ALL VEGETATION AND OTHER OBJECTIONABLE MATERIAL FROM THE FOUNDATION AREA, AND GRADE AND CROWN FOR POSITIVE DRAINAGE.
3. IF SLOPE TOWARDS THE ROAD EXCEEDS 2%, CONSTRUCT A 6-8 IN. HIGH WATER BAR (RIDGE) WITH 3:1 SIDE SLOPES ACROSS THE FOUNDATION AREA ABOUT 15 FT. FROM THE ENTRANCE TO DIVERT RUNOFF AWAY FROM THE ROAD (PRACTICE 3.24) SEE EXHIBIT.
4. INSTALL PIPE UNDER THE PAD IF NEEDED TO MAINTAIN PROPER PUBLIC ROAD DRAINAGE.
5. IF WET CONDITIONS ARE ANTICIPATED, PLACE GEOTEXTILE FABRIC ON THE GRADED FOUNDATION TO IMPROVE STABILITY.
6. PLACE STONE TO DIMENSIONS AND GRADE SHOWN IN THE EROSION/SEDIMENT CONTROL PLAN, LEAVING THE SURFACE SMOOTH AND SLOPED FOR DRAINAGE.
7. DIVERT ALL SURFACE RUNOFF AND DRAINAGE FROM THE STONE PAD TO A SEDIMENT TRAP OR BASIN.

(NOT TO SCALE)

MAINTENANCE:
1. INSPECT ENTRANCE PAD AND SEDIMENT DISPOSAL AREA WEEKLY AND AFTER STORM EVENTS OR HEAVY USE.
2. RESHAPE PAD AS NEEDED FOR DRAINAGE AND RUNOFF CONTROL.
3. TOP-DRESS WITH CLEAN STONE AS NEEDED.
4. IMMEDIATELY REMOVE MUD AND SEDIMENT TRACKED OR WASHED ONTO PUBLIC ROADS BY BRUSHING OR SWEEPING. FLUSHING SHOULD ONLY BE USED IF THE WATER IS CONVEYED INTO A SEDIMENT TRAP OR BASIN.
5. REPAIR ANY BROKEN ROAD PAVEMENT IMMEDIATELY.

MUD MATS - ENTRANCE STABILIZATION

MATERIAL: MUD MAT BY AGES, RE-USABLE SOIL STABILIZATION SYSTEM OR APPROVED EQUAL



(NOT TO SCALE)

INSTALLATION:
1. AVOID LOCATING ON STEEP SLOPES OR AT CURVES IN PUBLIC ROADS.
2. REMOVE ALL VEGETATION AND OTHER OBJECTIONABLE MATERIAL FROM THE FOUNDATION AREA, AND GRADE AND CROWN FOR POSITIVE DRAINAGE.
3. INSTALL PER MANUFACTURER'S RECOMMENDATIONS. UNROLL, CONNECT MATS TOGETHER TO FORM AREA OF PROTECTION AND PROPERLY ANCHOR TO GROUND.
4. DIVERT ALL SURFACE RUNOFF AND DRAINAGE FROM THE MUD MAT TO A SEDIMENT TRAP OR BASIN.
5. MINIMUM SIZE OF THE MAT IS 12 FEET WIDE AND 50 FEET LONG.

MAINTENANCE:
1. INSPECT ENTRANCE PAD DAILY AND REMOVE BUILT-UP DEBRIS AS NECESSARY.
2. INSPECT ENTRANCE PAD FOR BREAKS AND TEARS IN THE MATERIAL. REPAIR OR REPLACE AS NECESSARY.
3. IMMEDIATELY REMOVE MUD AND SEDIMENT TRACKED OR WASHED ONTO PUBLIC ROADS BY BRUSHING OR SWEEPING. FLUSHING SHOULD ONLY BE USED IF THE WATER IS CONVEYED INTO A SEDIMENT TRAP OR BASIN.
4. REPAIR ANY BROKEN ROAD PAVEMENT IMMEDIATELY.

MATERIAL MANAGEMENT MEASURES (HOUSEKEEPING)

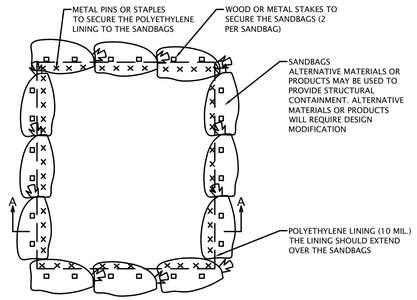
CONCRETE WASHOUT

MATERIALS: MINIMUM OF TEN MIL POLYETHYLENE SHEETING, FREE OF HOLES, TEARS, AND OTHER DEFECTS
ORANGE SAFETY FENCING OR EQUIVALENT
SANDBAGS
METAL PINS OR STAPLES SIX INCHES IN LENGTH MINIMUM.

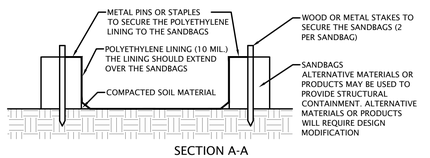
LOCATION:
1. LOCATE CONCRETE WASHOUT SYSTEMS AT LEAST 50 FEET FROM ANY CREEKS, WETLANDS, DITCHES, KARST FEATURES, OR STORM DRAINS/MANMADE CONVEYANCE SYSTEMS.
2. LOCATE CONCRETE WASHOUT SYSTEMS IN RELATIVELY FLAT AREAS THAT HAVE ESTABLISHED VEGETATIVE COVER AND DO NOT RECEIVE RUNOFF FROM ADJACENT LAND AREAS.
3. LOCATE AWAY FROM OTHER CONSTRUCTION TRAFFIC IN AREAS THAT PROVIDE EASY ACCESS FOR CONCRETE TRUCKS.

INSTALLATION:
1. A BASE SHALL BE CONSTRUCTED AND PREPARED THAT IS FREE OF ROCKS AND OTHER DEBRIS THAT MAY CAUSE TEARS OR PUNCTURES IN THE POLYETHYLENE LINING.
2. INSTALL THE POLYETHYLENE LINING. FOR EXCAVATED SYSTEMS, THE LINING SHOULD EXTEND OVER THE ENTIRE EXCAVATION. THE LINING FOR BERMED SYSTEMS SHOULD BE INSTALLED OVER THE POOLING AREA WITH ENOUGH MATERIAL TO EXTEND THE LINING OVER THE BERM OR CONTAINMENT SYSTEM. THE LINING SHOULD BE SECURED WITH PINS, STAPLES, OR OTHER FASTENERS.
3. PLACE FLAGS, SAFETY FENCING, OR EQUIVALENT TO PROVIDE A BARRIER TO CONSTRUCTION EQUIPMENT AND OTHER TRAFFIC. INSTALL SIGNAGE THAT IDENTIFIES CONCRETE WASHOUT AREAS.
4. WHERE NECESSARY, PROVIDE STABLE INGRESS AND EGRESS OR ALTERNATIVE APPROACH PAD.

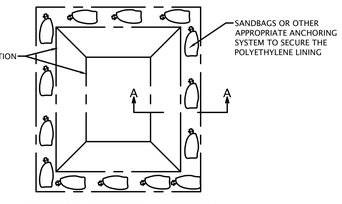
MAINTENANCE:
1. INSPECT DAILY AND AFTER EACH STORM EVENT.
2. INSPECT THE SYSTEM FOR LEAKS, SPILLS, AND TRACKING OF SOIL BY EQUIPMENT.
3. INSPECT THE POLYETHYLENE LINING FOR FAILURE, INCLUDING TEARS AND PUNCTURES.
4. ONCE CONCRETE WASTES HARDEN, REMOVE AND DISPOSE OF THE MATERIAL.
5. EXCESS CONCRETE SHOULD BE REMOVED WHEN THE WASHOUT SYSTEM REACHES 50 PERCENT OF THE DESIGN CAPACITY. USE OF THE SYSTEM SHOULD BE DISCONTINUED UNTIL APPROPRIATE MEASURES CAN BE INITIATED TO CLEAN THE STRUCTURE.
6. UPON REMOVAL OF THE SOLIDS, INSPECT THE STRUCTURE. REPAIR THE STRUCTURE AS NEEDED OR CONSTRUCT A NEW SYSTEM. DISPOSE OF ALL CONCRETE IN A LEGAL MANNER. REUSE THE MATERIAL ON SITE, RECYCLE, OR HAUL THE MATERIAL TO AN APPROVED CONSTRUCTION/DEMOLITION LANDFILL SITE. RECYCLING OF MATERIAL IS ENCOURAGED. THE WASTE MATERIAL CAN BE USED FOR MULTIPLE APPLICATIONS INCLUDING BUT NOT LIMITED TO ROADBEDS AND BUILDING. THE AVAILABILITY FOR RECYCLING SHOULD BE CHECKED LOCALLY.
7. THE PLASTIC LINER SHOULD BE REPLACED AFTER EVERY CLEANING; THE REMOVAL OF MATERIAL WILL USUALLY DAMAGE THE LINING. THE CONCRETE WASHOUT SYSTEM SHOULD BE REPAIRED OR ENLARGED AS NECESSARY TO MAINTAIN CAPACITY FOR CONCRETE WASTE.
8. CONCRETE WASHOUT SYSTEMS ARE DESIGNED TO PROMOTE EVAPORATION. HOWEVER, IF THE LIQUIDS DO NOT EVAPORATE AND THE SYSTEM IS NEAR CAPACITY IT MAY BE NECESSARY TO VACUUM OR REMOVE THE LIQUIDS AND DISPOSE OF THEM IN AN ACCEPTABLE METHOD. DISPOSAL MAY BE ALLOWED AT THE LOCAL SANITARY SEWER AUTHORITY PROVIDED THEIR NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMITS ALLOW FOR ACCEPTANCE OF THIS MATERIAL. ANOTHER OPTION WOULD BE TO UTILIZE A SECONDARY CONTAINMENT SYSTEM OR BASIN FOR FURTHER DEWATERING.
9. INSPECT CONSTRUCTION ACTIVITIES ON A REGULAR BASIS TO ENSURE SUPPLIERS, CONTRACTORS, AND OTHERS ARE UTILIZING DESIGNATED WASHOUT AREAS. IF CONCRETE WASTE IS BEING DISPOSED OF IMPROPERLY, IDENTIFY THE VIOLATORS AND TAKE APPROPRIATE ACTION.
10. WHEN CONCRETE WASHOUT SYSTEMS ARE NO LONGER REQUIRED, THE CONCRETE WASHOUT SYSTEMS SHALL BE CLOSED. DISPOSE OF ALL HARDENED CONCRETE AND OTHER MATERIALS USED TO CONSTRUCT THE SYSTEM.
11. HOLES, DEPRESSIONS, AND OTHER LAND DISTURBANCES ASSOCIATED WITH THE SYSTEM SHOULD BE BACKFILLED, GRADED, AND STABILIZED.



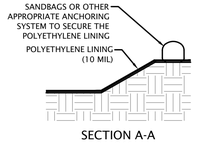
ABOVE GRADE CONCRETE WASHOUT
(NOT TO SCALE)



SECTION A-A
(NOT TO SCALE)



BELOW GRADE CONCRETE WASHOUT
(NOT TO SCALE)



SECTION A-A
(NOT TO SCALE)

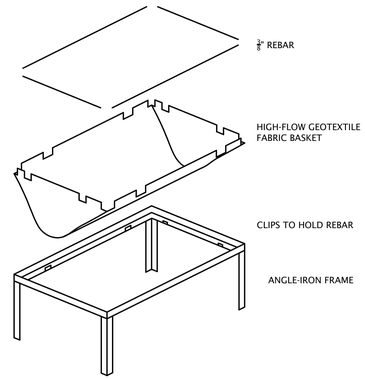
COMMON CONCERNS:
1. COMPLETE CONSTRUCTION/INSTALLATION OF THE SYSTEM AND HAVE WASHOUT LOCATIONS OPERATIONAL PRIOR TO CONCRETE DELIVERY.
2. IT IS RECOMMENDED THAT WASHOUT SYSTEMS BE RESTRICTED TO WASHING CONCRETE FROM MIXER AND PUMP TRUCKS AND NOT USED TO DISPOSE OF EXCESS CONCRETE OR RESIDUAL LOADS DUE TO POTENTIAL TO EXCEED THE DESIGN CAPACITY OF THE WASHOUT SYSTEM.
3. INSTALL SYSTEMS AT STRATEGIC LOCATIONS THAT ARE CONVENIENT AND IN CLOSE PROXIMITY TO WORK AREAS AND IN SUFFICIENT NUMBER TO ACCOMMODATE THE DEMAND FOR DISPOSAL.
4. INSTALL SIGNAGE IDENTIFYING THE LOCATION OF CONCRETE WASHOUT SYSTEMS.

FRYEFLOW FILTRATION SYSTEMS WASHOUT

MATERIALS: FRYE-FLOW FILTRATION SYSTEMS CONCRETE WASHOUT DEVICE OR APPROVED EQUAL

INSTALLATION:
1. INSERT REBAR INTO POCKETS OF DEBRIS BAG.
2. INSTALL FRYEFLOW SYSTEMS DEBRIS BAG INTO ANGLE IRON FRAME.
3. MAKE SURE REBAR SETS BEHIND REBAR BRACKETS.
4. MAKE SURE FRAME AND BAG IS SET ON FLAT SURFACE
5. INSTALL SIGNAGE THAT IDENTIFIES CONCRETE WASHOUT AREAS.
6. WHERE NECESSARY, PROVIDE STABLE INGRESS AND EGRESS OR ALTERNATIVE APPROACH PAD.

MAINTENANCE:
1. ONCE DEBRIS BAG IS FULL, USE HANDLES PROVIDED TO LIFT OUT OF FRAME.
2. REMOVE REBAR FROM SIDE POCKETS.
3. INSERT NEW DEBRIS BAG.



SPILL PREVENTION AND CONTROL PLAN

1. ONLY APPROVED FUEL STORAGE TANK SHALL BE ALLOWED ON SITE.
2. SPILL KITS MUST BE LOCATED ON-SITE IN THE VICINITY OF THE FUEL STORAGE SINK.
3. MOBILE FUELING SHALL BE USED WHENEVER POSSIBLE.
4. FUELING SHOULD TAKE PLACE IN A CENTRAL LOCATION.
5. EQUIPMENT SHOULD BE KEPT IN GOOD WORKING ORDER, WELL MAINTAINED SO THAT BREAKDOWNS, AND EQUIPMENT FAILURES ARE REDUCED.

FUEL STORAGE

1. ALL FUEL TANKS ON SITE SHALL HAVE SECONDARY CONTAINMENT APPROVED BY IDEM.
2. NO FUEL TANKS ARE TO BE LOCATED WITHIN 100 FEET OF A STORM SEWER INLET.
3. FUEL STORAGE SYSTEM SHALL BE KEPT IN GOOD WORKING ORDER AND SHALL BE SUBJECT TO PERIODIC IDEM INSPECTIONS.
4. SPILL KITS MUST BE LOCATED ON-SITE IN THE VICINITY OF THE FUEL STORAGE SINK.
5. FUEL TANKS SHALL HAVE A SAFETY GAUGE.

STOCKPILES

1. THE CONTRACTOR SHALL LOCATE TOPSOIL STOCKPILES ON-SITE AS NOTED ON THE S.W.P.P.P. AND SHALL ENCOMPASS EACH WITH SEDIMENT DITCH AND SILT FENCE.
2. IN CASES WHERE THE STOCKPILE IS SMALL AND WILL BE REMOVED FROM THE SITE WITHIN 15 DAYS, THE CONTRACTOR CAN COVER THE STOCKPILE WITH A WATERPROOF TARPAULINE TYPE COVER.
3. NO OFF-SITE STOCKPILES ARE BEING PROPOSED. ANY OFF-SITE STOCKPILES THAT THE CONTRACTOR UTILIZES SHALL FOLLOW THE SAME REQUIREMENTS AS ON-SITE STOCKPILES. THE CONTRACTOR SHALL IDENTIFY TO THE LOCAL S.W.P.P.P. ENFORCEMENT AGENCY THE LOCATIONS OF ANY OFF-SITE STOCKPILES.

TEMPORARY FACILITIES

1. THE CONTRACTOR SHALL FOLLOW THE PROCEDURES DELINEATED ON THE PLAN IN ORDER TO CONSTRUCT AND MAINTAIN THE FACILITIES SHOWN ON THE DRAWINGS TO CONTROL WATER AND WIND EROSION DURING CONSTRUCTION OF THE PROJECT.
2. ALL DISTURBED SURFACE AREAS (INCLUDING UTILITY TRENCHES) SHALL BE TEMPORARILY GRADED AND/OR DITCHED TO DIRECT WATER RUNOFF FROM SUCH AREAS TO SEDIMENTATION CONTROL DEVICES WHICH WILL PREVENT DISTURBING ERODED WATER CARRYING SOIL FROM ENTERING A WATERCOURSE, SEWER, OR ADJACENT LANDS. SUCH SEDIMENTATION CONTROL DEVICES SHALL INCLUDE BUT NOT BE LIMITED TO PROTECTIVE DITCHES, SEDIMENT TRAPS, SEDIMENT FILTERS, DITCH TRAPS, PIPE BARRIERS, SIKE DIKES, CHECK DAMS, CHEMICAL SETTLING FILTERS.
3. UPON COMPLETION OF THE ROUGH GRADING ALL AREAS NOT EFFECTED BY CONSTRUCTION TRAFFIC SHALL BE PERMANENTLY SEEDED, AND EROSION CONTROL BLANKETS INSTALLED ON SIDE SLOPES THAT EXCEED 5:1.
4. UPON COMPLETION OF THE STORM SEWER SYSTEM, INLET PROTECTION SHALL BE INSTALLED, CHECK DAMS INSTALLED IN THE SWALES, AND TEMPORARY RIPRAP WITH SETTLING BASINS PLACED AT THE OUTFALLS OF ALL PIPE.
5. IN ROADWAY AREAS TEMPORARY AGGREGATE SURFACING SHALL BE PLACED IMMEDIATELY AFTER THE BACKFILLING HAS BEEN COMPLETED. POSITIVE DUST CONTROL MEASURES SHALL BE TAKEN AT ALL TIMES.
6. WITHIN 14 DAYS FROM THE DATE A PROJECT IMPROVEMENT IS INSTALLED THE CONTRACTOR SHALL PROCEED WITH FINAL CLEANUP AND RESTORATION OF THE PROJECT AREA DISTURBED INCLUDING SPOIL AREAS,AND COMPLETE SUCH OPERATIONS WITHIN THE NEXT 15 DAYS. IF SEASONAL CONDITIONS PREVENT FINAL CLEANING AND RESTORATION, THE CONTRACTOR SHALL PROCEED WITH TEMPORARY STABILIZATION OF THE DISTURBED AREAS. FINAL CLEANUP AND RESTORATION WILL CONSIST OF FINAL GRADING, APPLYING TOPSOIL, SEEDING AND MULCHING AND/OR SODDING OF ALL DISTURBED AREAS OF THE PROJECT. TEMPORARY STABILIZATION SHALL CONSIST OF ROUGH GRADING THE DISTURBED AREAS TO A CONDITION READY TO RECEIVE TOPSOIL, SEEDING, AND MULCHING IN ACCORDANCE WITH THE TEMPORARY SEEDING SCHEDULE. TEMPORARY STABILIZATION MATERIALS SHALL BE REMOVED, DISPOSED OF, AND FINAL CLEANUP AND RESTORATION SHALL BE COMPLETED NOT LATER THAN 60 DAYS AFTER SEASONAL CONDITIONS ALLOW PERFORMANCE OF THE REQUIRED WORK. THE CONTRACTOR SHALL LOCATE TOPSOIL STOCKPILES ON-SITE AS NOTED ON THE S.W.P.P.P. AND SHALL ENCOMPASS EACH WITH SEDIMENT DITCH AND SILT FENCE. IN CASES WHERE THE STOCKPILE IS SMALL AND WILL BE REMOVED FROM THE SITE WITHIN 15 DAYS, THE CONTRACTOR CAN COVER THE STOCKPILE WITH A WATERPROOF TARPAULINE TYPE COVER. NO OFF-SITE STOCKPILES ARE BEING PROPOSED. ANY OFF-SITE STOCKPILES THAT THE CONTRACTOR UTILIZES SHALL FOLLOW THE SAME REQUIREMENTS AS ON-SITE STOCKPILES. THE CONTRACTOR SHALL IDENTIFY TO THE LOCAL S.W.P.P.P. ENFORCEMENT AGENCY THE LOCATIONS OF ANY OFF-SITE STOCKPILES.

MATERIAL HANDLING AND STORAGE

THE CONTRACTOR SHALL MINIMIZE THE DISTURBANCE OF EXCAVATED SOILS BY MINIMIZING THE NUMBER OF TIMES THE SOIL IS HANDLED. ON-SITE HANDLING OF SOILS WILL OCCUR DURING EXCAVATION, LOADING, AND SPREADING ACTIVITIES. FUEL FOR HEAVY EQUIPMENT AND VEHICLES WILL NOT BE STORED ON THE SITE DURING CONSTRUCTION OPERATIONS. MOBILE FUEL TANKS WILL FUEL HEAVY EQUIPMENT. IN THE EVENT OF A SPILL OR LEAK THE CONTRACTOR SHALL FOLLOW PROPER PROCEDURES TO MINIMIZE CONCERN. THE CONTRACTOR SHALL:

1. TAKE IMMEDIATE MEASURES TO CONTROL AND CONTAIN THE SPILL TO PREVENT RELEASE INTO SEWERS OR SURFACE WATERS.
2. NOTIFY THE LOCAL FIRE DEPARTMENT IMMEDIATELY AT 9-1-1.
3. NOTIFY THE FEDERAL EMERGENCY SPILL HOTLINE AT 1-800-424-8802 WITHIN 2 HOURS IF THE AMOUNT IS ABOVE A REPORTABLE
4. QUANTITY OR ANY AMOUNT ENTERS A WATERWAY OR STORM SEWER.
5. NOTIFY THE INDIANA EMERGENCY RESPONSE HOTLINE AT 1-888-233-7745.
6. FOLLOW THE GUIDELINES FOR HANDLING THE SPILL AS OUTLINED IN THE INCLUDED MATERIAL SAFETY DATA SHEETS.

DVG TEAM INC
1155 Troutwine Road
Crown Point, IN 46307
P: (219) 662-7710
F: (219) 662-2740
www.dvgteam.com

RUSSELL JACOB MUNSTER REGISTERED NO. PE10910567 STATE OF INDIANA PROFESSIONAL ENGINEER

11/17/2023

Crew Carwash
11700 Exit 5 Parkway
Fishers, IN 46037

DATE:	REVISIONS AND NOTES:

111 Ridge Road Munster
Crew #63
Stormwater Pollution
Prevention Plan Details

NO SCALE

DESIGN BY	DATE
DVG	05/19/23
PROJECT NO.	
22-0538	

C304