<u>LEGEND</u>

GAS METER GAS VALVE GAS TANK

GAS WELL

MANHOLE

CLEAN OUT

O

M.H.

C.O.

- - ST -**⑤**⑦

C.B.

T/G

T/C

T/CU

Y.D. D.S.

- — UT —

 \bigcirc

 \bigcirc - - OTV-

 \bigcirc

SCD NUMBER

SANITARY SEWER LINE

SANITARY M.H./ C.O.

STORM SEWER LINE

STORM CATCH BASIN STORM CURB INLET

STORM MANHOLE

STORM DOWNSPOUT

STORM HEADWALL

CATCH BASIN

TOP OF GRATE

TOP OF COVER

TOP OF CURB

FLOWLINE YARD DRAIN

DOWNSPOUT

TELEPHONE BOX

TELEPHONE MANHOLE

UNDERGROUND TV LINE

OVERHEAD TV LINE

TV LINE MARKER

TV/CABLE MANHOLE

WATER LINE MARKER

TV/CABLE BOX

WATER LINE

WATER VALVE

FIRE HYDRANT

ODOT STANDARD DRAWING LIST

CATCH BASIN 2-2B

HALF HEIGHT HEADWALL

7/20/18

7/21/17

WATER SPRINKLER

OVERHEAD TELEPHONE LINE

TELEPHONE LINE MARKER

UNDERGROUND TELEPHONE LINE

CURB INLET

SANITARY SEWER LINE MARKER

STORM SEWER LINE MARKER

<u></u>	EX. MONUMENT BOX
	PROP. MONUMENT BOX
0	EX. MONUMENT (AS NOTED)
•	5/8" BAR W/ H&A CAP (SET)
•	BENCHMARK (AS NOTED)
B	BOUNDARY LINE
Q.	CENTER LINE
4_	LOT LINE
R	PROPERTY LINE
R/W	RIGHT OF WAY
()	RECORD BEARINGS & DIST.
E.O.P.	EDGE OF PAVEMENT
F.F.	FINISH FLOOR
	EX. CONTOUR LINE
	PROP. CONTOUR LINE
-980-	CONTOUR LABEL
(ii)	BOLLARD
- ×	FENCE (AS NOTED)
0	GUARDRAIL
<u> </u>	MAILBOX
	RAIL ROAD
<u>-</u>	SIGN
Ġ	H.C. PARKING SPACE
£3	DECIDIOUS TREE (AS NOTED)
₩ ₩	EVERGREEN TREE (AS NOTED)
\bigcirc	BUSH (AS NOTED)
	SOIL BORING
	POLE ANCHOR
<u></u>	GUY POLE
ϕ	GENERAL POLE
	FLAG POLE
<u></u>	LIGHT POLE
d d	LIGHT & POWER POLE
<u> </u>	LIGHT, POWER, TELE POLE
- <u>E</u>	LIGHT, POWER, TELE, TV POLE
	POWER POLE
	TELEPHONE POLE
	TELEPHONE, LIGHT POLE
<u> </u>	TELEPHONE, POWER POLE
P	,
	TRAFFIC CONTROL BOX
-0	POLE W/ PED. SIGNAL
<u> </u>	POLE W/ TRAFFIC SIGNAL
- — OE — -	OVERHEAD ELECTRIC LINE
- — UE — —	UNDERGROUND ELECTRIC LINE
©	ELECTRIC LINE MARKER
	ELECTRIC LINE MARKER ELECTRIC BOX
E	ELECTRIC MANHOLE
	ELECTRIC METER
FO	FIBER OPTIC LINE

FIBER OPTIC LINE MARKER

R.G. DRAGE CAREER TECHNICAL CENTER GAS LINE PARKING LOT EXPANSION AND RETENTION BASIN GAS LINE MARKER

LOCATED O.L. 1089 IN THE CITY OF MASSILLON, STARK COUNTY, OIHIO MARCH 2020

ENGINEER / SURVEYOR

HAMMONTREE & ASSOCIATES, LIMITED 5233 STONEHAM ROAD NORTH CANTON, OHIO 44720

> JENNIFER D. SCHUMACHER, PE, LEED-AP

PHONE-

jschumacher@hammontree-engineers.com

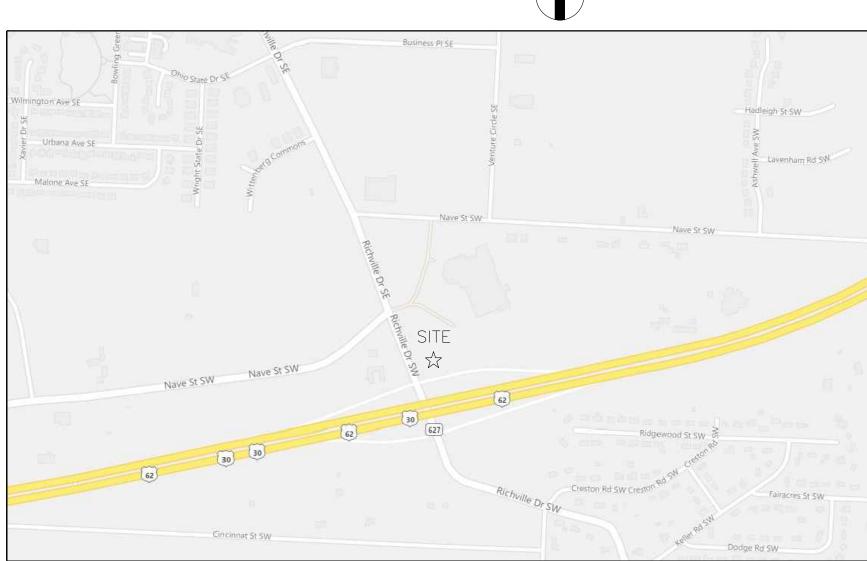
330-499-8817

OWNER/DEVELOPER

STARK COUNTY AREA JOINT VOCATIONAL SCHOOL DISTRICT 2800 RICHVILLE DR SW MASSILLON, OH 44646

ATTN- DOUGLAS TUCKER MAINTENANCE MANAGER

PHONE- (330) 832-9856



SITE ADDRESS: 2800 RICHVILLE DR SW, MASSILLON, OH 44646

UTILITY CONTACTS

SANITARY

CITY OF MASSILLON MUNICIPAL GOVERNMENT ANNEX 151 LINCOLN WAY EAST MASSILLON, OH 44646

PH: 330-830-1722

<u>WATER</u>

AQUA OHIO 870 THIRD ST NW MASSILLON, OH 44647

ATTN: JACOB FLANARY PH: 330-832-5764 X50650

<u>GAS</u>

DOMINION EAST OHIO 320 SPRINGSIDE DR, SUITE 320 AKRON, OH 44333

ATTN: BRYAN DAYTON PH: 330-664-2409

ELECTRIC

OHIO EDISON 1910 W. MARKET ST, BLDG 1 AKRON, OH 44313

PH: 800-633-4766

TELEPHONE

AT&T OHIO 50 W. BOWERY ST, 6TH FLOOR AKRON, OH 44308 ATTN: WAYNE PROUDFOOT PH: 330-384-3052

<u>Cable</u>

MASSILLON CABLE TV 814 CABLE COURT MASSILLON, OH 44647

PH: 330-833-5509

* THE CONTRACTOR IS TO VERIFY THE LOCATION

INDEX OF SHEETS

COVER	C1.1
EXISTING SITE	C2.1
OVERALL SITE PLAN	C3.1
BASE BID SITE PLAN	C4.1
ALTERNATE SITE PLAN	C5.1
SITE DETENTION PLAN	C6.1
SITE NOTES & DETAILS	C7.1
SITE NOTES & DETAILS	C7.2
STORMWATER POLLUTION PREVENTION NOTES	C8.1
STORMWATER POLLUTION PREVENTION PLAN	C8.2
STORMWATER POLLUTION PREVENTION DETAILS	C8.3
STORMWATER POLLUTION PREVENTION DETAILS	C8.4
STORMWATER POLLUTION PREVENTION DETAILS	C8.5
STORMWATER POLLUTION PREVENTION DETAILS	C8.6

<u>APPROVALS</u>

APPROVED BY THE STARK CO. SOIL & WATER CONSERVATION DISTRICT BY A LETTER DATED ______, 20___.

ONLY APPROVED SIGN PLANS BY THE CITY ENGINEER ARE TO BE USED FOR CONSTRUCTION.

APPROVED BY THE MASSILLON CITY ENGINEER THIS JASON M. POPIEL, P.E.

CONTRACTOR IS RESPONSIBLE FOR VERIFYING QUANTITIES, INCLUDING EARTHWORK. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE OWNER AND ENGINEER DURING THE BIDDING PROCESS OF ANY QUANTITY DISCREPANCIES IN THE BID DOCUMENTS. ONCE THE CONSTRUCTION CONTRACT IS ISSUED, THE CONTRACTOR ACKNOWLEDGES THE CONTRACT PRICE COVERS ALL LABOR AND MATERIALS TO SUBSTANTIALLY COMPLETE THE PROJECT ACCORDING TO THE CONSTRUCTION DOCUMENTS.

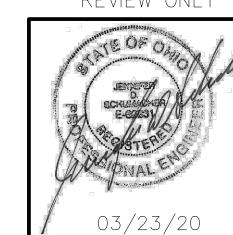
UNDERGROUND UTILITIES

Contact Two Working Days Before You Dig

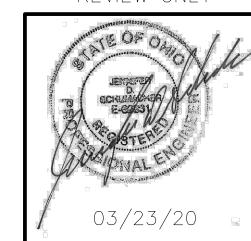


OHIO811, 8-1-1, or 1-800-362-2764(Non-members must be called directly)

OF ALL UTILITIES PRIOR TO CONSTRUCTION



FOR PERMIT & REVIEW ONLY



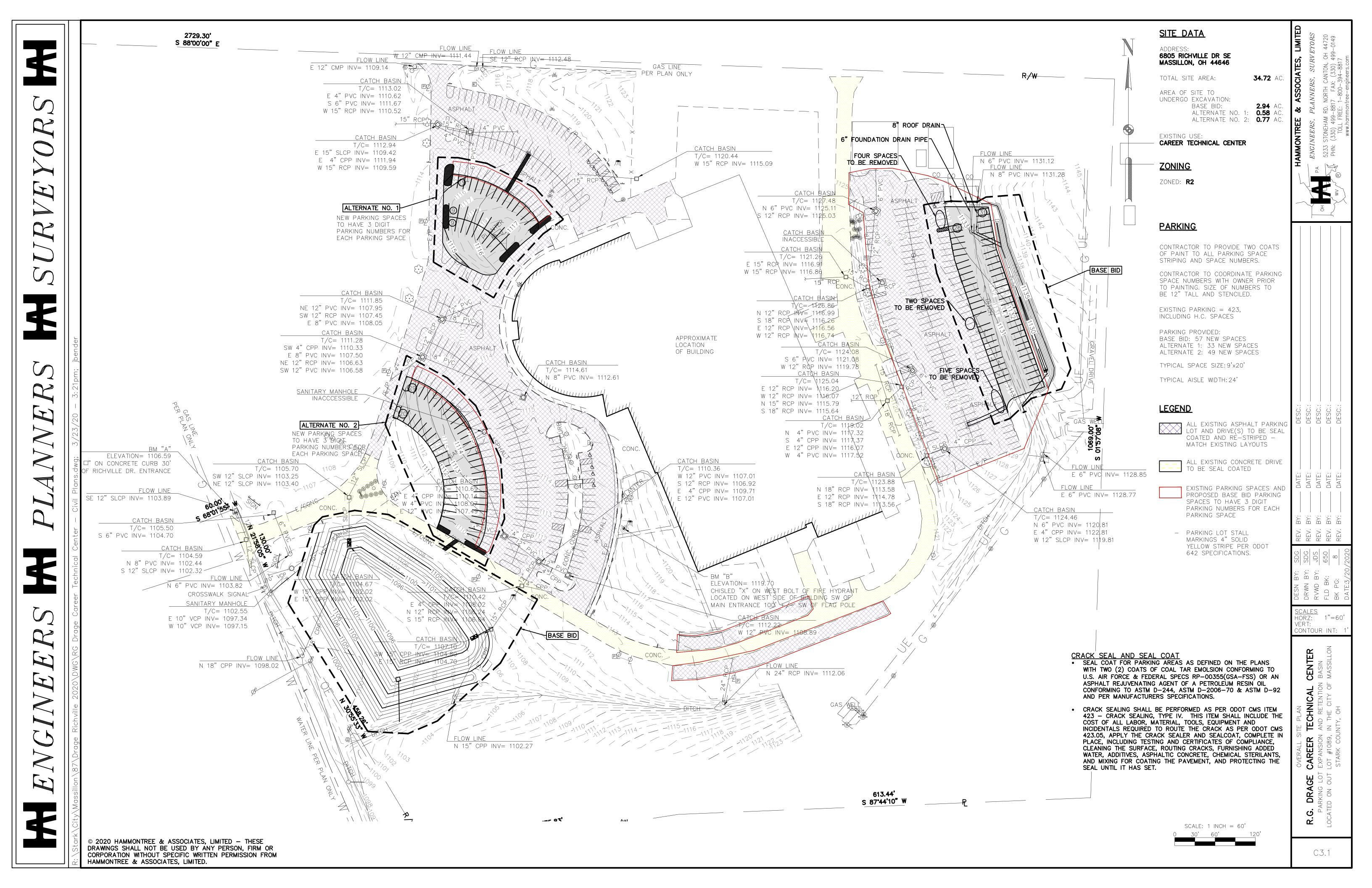
R.G.

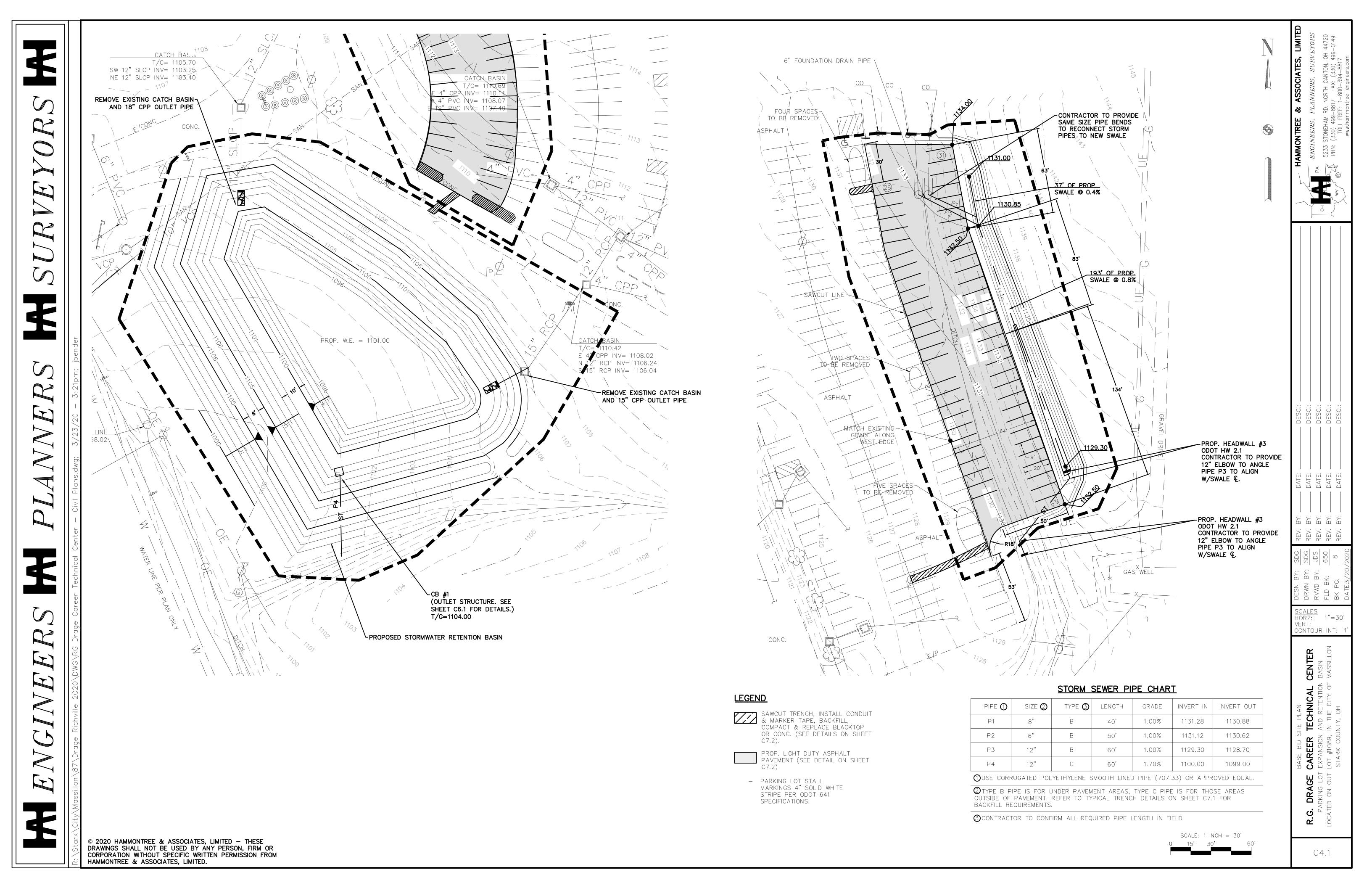
CAREER

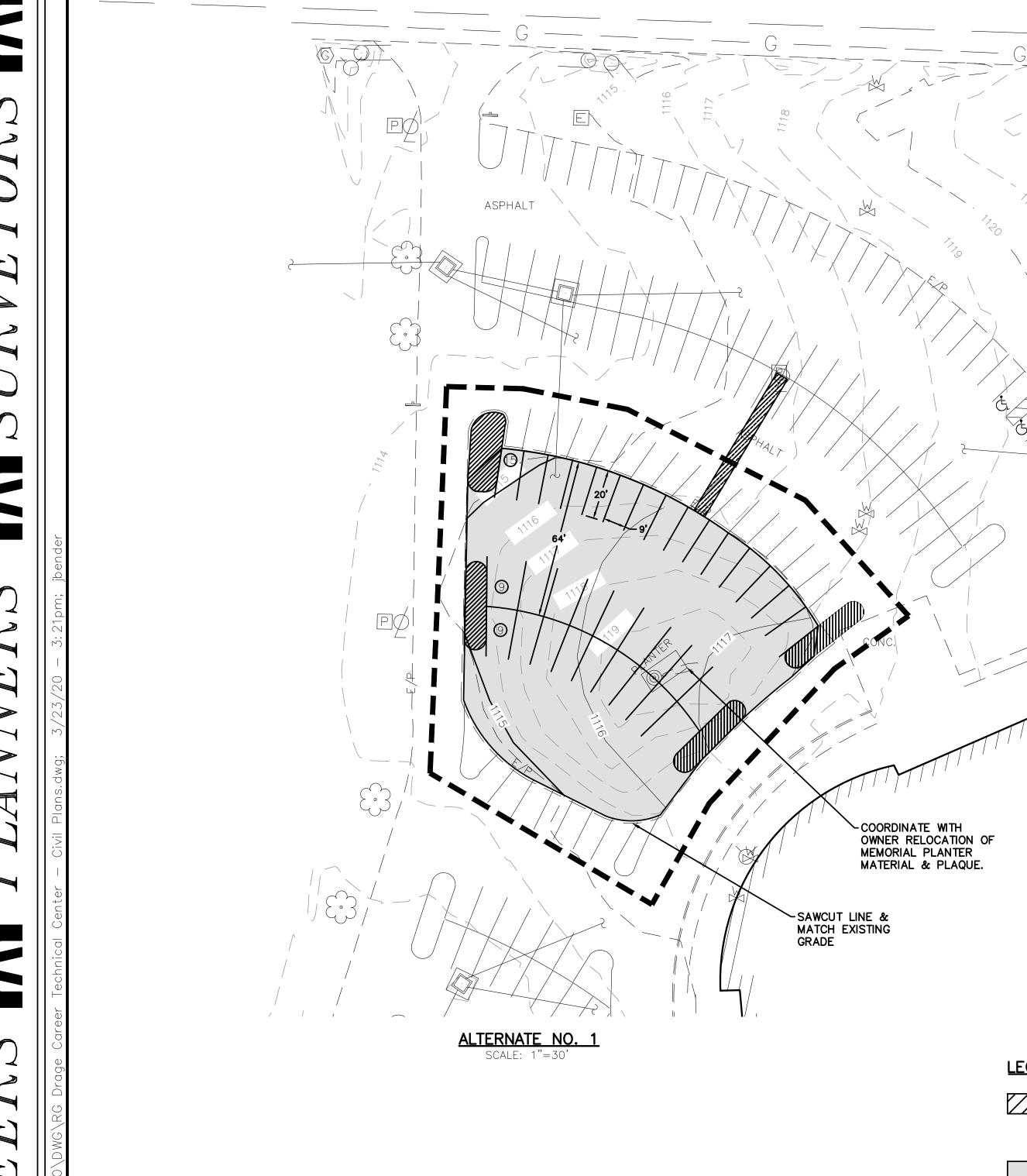
CONTOUR INT:

C1.1

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-SAWCUT LINE & MATCH EXISTING GRADES ALONG ASPHALT & CONC. EDGES ALTERNATE NO. 2

SCALE: 1"=30"

LEGEND

SAWCUT TRENCH, INSTALL CONDUIT & MARKER TAPE, BACKFILL, COMPACT & REPLACE BLACKTOP OR CONC. (SEE DETAILS ON C7.2).

PROP. LIGHT DUTY ASPHALT PAVEMENT (SEE DETAIL ON SHEET C7.2)

- PARKING LOT STALL MARKINGS 4" SOLID WHITE STRIPE PER ODOT 641 SPECIFICATIONS.
- GRASS AND SEED AREAS PER ODOT ITEM 659 AREAS OUTSIDE OF PAVEMENT AND WITHIN LIMITS OF

DISTURBANCE.

SCALE: 1 INCH = 30

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SCALES HORZ: 1"=30' VERT: CONTOUR INT: 1

CENTER

M BASIN

MASSILLON

TECHNICAL (
AND RETENTION
IN THE CITY OF

CAREER

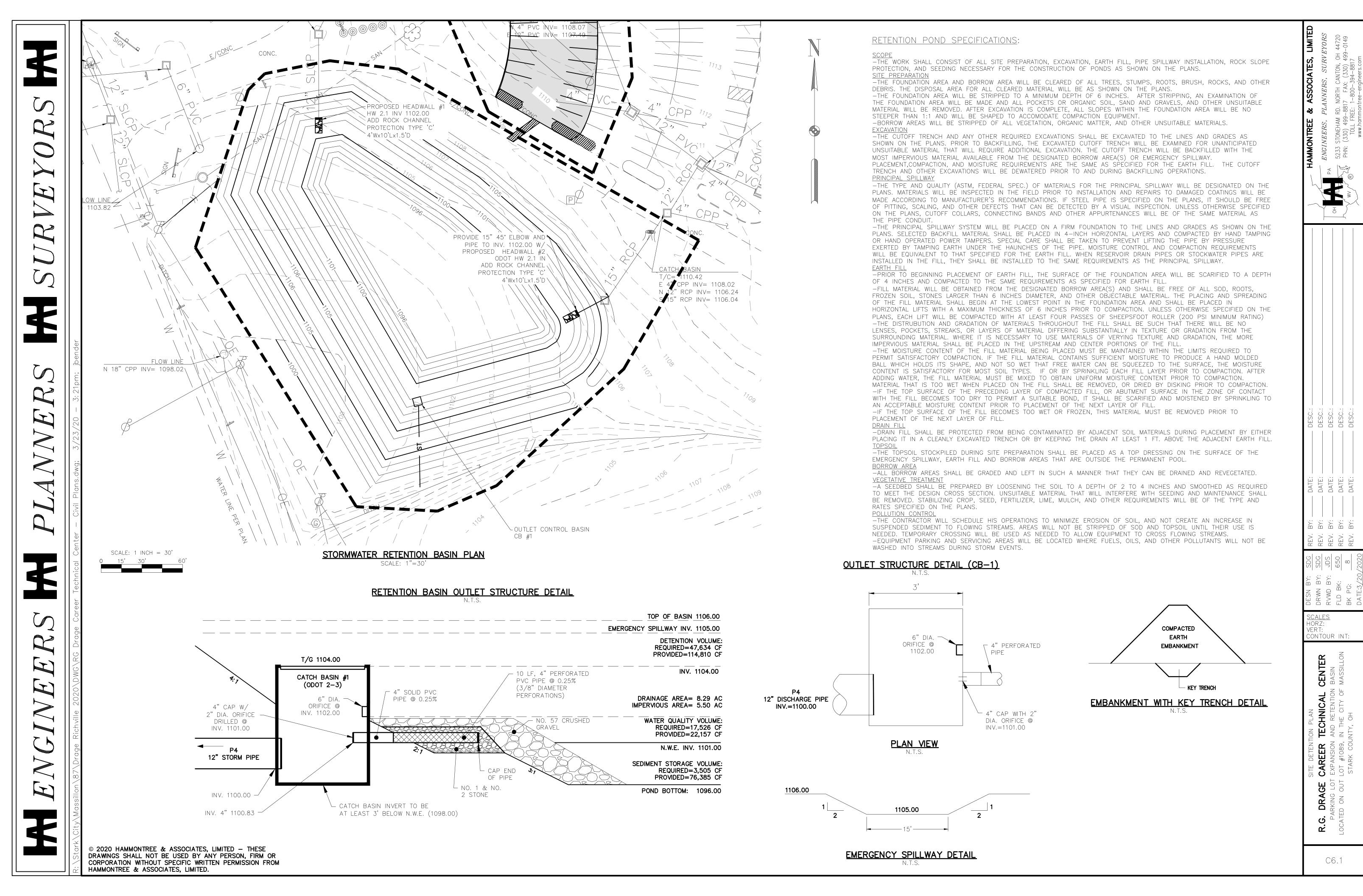
F EXPANSION

LOT #1089,

DRAGE OARKING LOT

C5.1

R.G.



GENERAL

PROJECT SPECIFICATIONS

ALL WORK REQUIRED TO COMPLETE THIS IMPROVEMENT SHALL BE PERFORMED IN STRICT ACCORDANCE WITH THE DETAILED CONSTRUCTION DRAWINGS, THE LATEST EDITION OF THE STATE OF OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS (2019), EXCEPT AS HEREIN AMENDED, AND PER THE CITY SPECIFICATIONS/REQUIREMENTS/STANDARDS. THE CONSTRUCTION DRAWINGS WILL TAKE PRECEDENCE OVER THE OTHER REQUIREMENTS. IN THE CASE OF A CONFLICT BETWEEN THE CITY AND THE ODOT SPECIFICATIONS/REQUIREMENTS, THE MORE STRICT OF THE TWO SPECIFICATIONS WILL GOVERN, AS DETERMINED BY THE ENGINEER. ODOT STANDARD CONSTRUCTION DRAWINGS SHALL APPLY TO THIS IMPROVEMENT EXCEPT AS OTHERWISE PROVIDED.

THE CONTRACTOR SHALL MAINTAIN A SAFE WORKING ENVIRONMENT AT/ALONG THE PROJECT SITE AT ALL TIMES. THE CONTRACTOR SHALL PROPERLY SUPPORT AND/OR MAINTAIN ALL EXCAVATIONS PER APPLICABLE SAFETY REQUIREMENTS AND COMPLY WITH ALL O.S.H.A. REGULATIONS. THIS SHALL INCLUDE STRICT COMPLIANCE WITH ALL APPLICABLE REGULATIONS/REQUIREMENTS REGARDING TRENCH SAFETY. ADEQUATE BARRICADES, WARNING LIGHTS, SIGNS, FENCING, ETC. SHALL BE ERECTED AROUND THE CONSTRUCTION AREA DURING ALL NON-WORKING HOURS TO ALERT PERSONS OF THE POTENTIAL DANGER ASSOCIATED WITH THE AREA UNDER CONSTRUCTION AS WELL AS TO PREVENT ACCESS BY UNAUTHORIZED PERSONNEL TO THE CONSTRUCTION SITE/AREA. TRENCHES SHALL BE BACKFILLED AT THE END OF EACH WORK DAY OR PROPERLY SECURED AS APPROVED BY THE ENGINEER. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO ENSURE THE SAFETY OF THE GENERAL PUBLIC AS WELL AS ALL CONSTRUCTION PERSONNEL. PUBLIC STREETS SHALL BE KEPT CLEAN AND FREE OF DEBRIS (MUD, STONE, ETC.) AT ALL TIME. THE CONTRACTOR SHALL ALERT ALL LOCAL EMERGENCY AGENCIES/SERVICES (FIRE, POLICE, AMBULANCE, ETC.) OF THE NATURE OF THE PROPOSED PROJECT PRIOR TO BEGINNING ANY CONSTRUCTION ACTIVITY. ACCESS FOR EMERGENCY VEHICLES SHALL BE MAINTAINED AT ALL TIMES.

AT NO TIME SHALL ANY PERSONNEL ENTER EXISTING STRUCTURES/CHAMBERS WITHOUT PROPER SAFETY EQUIPMENT, INCLUDING BUT NOT LIMITED TO AIR PACKS, AIR MONITORS AND/OR AIR SENSORS, PROTECTIVE CLOTHING, BODY HARNESS WITH POSITIVE MEANS OF REMOVING A PERSON FROM THE STRUCTURE/CHAMBER, ETC. ALL WORK SHALL BE PERFORMED IN COMPLIANCE WITH APPLICABLE O.S.H.A. REQUIREMENTS INCLUDING THOSE SPECIFIED FOR ENTERING CONFINED SPACES.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL MEANS, METHODS, AND MATERIALS OF CONSTRUCTION TO COMPLETE PROPOSED CONSTRUCTION. THE DESIGN ENGINEER SHALL NOT BE RESPONSIBLE FOR THE MEANS, METHODS, PROCEDURES, TECHNIQUES, OR SEQUENCES OF CONSTRUCTION NOT SPECIFIED HEREIN. THE DESIGN ENGINEER SHALL NOT BE RESPONSIBLE FOR THE SAFETY ON THE JOB SITE OR THE CONTRACTOR'S FAILURE TO CARRY OUT THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

THE CONTRACTOR IS OBLIGATED TO VERIFY ALL DIMENSIONS ON THE GROUND. ANY APPARENT DISCREPANCIES OR QUESTIONS IN CONTRACT DOCUMENTS ARE TO BE BROUGHT TO THE ATTENTION OF THE OWNER'S REPRESENTATIVES

ANY MODIFICATIONS TO THE WORK SHOWN ON THE PLANS MUST HAVE PRIOR WRITTEN APPROVAL FROM THE OWNER AND REVIEW AGENCIES.

PRE-CONSTRUCTION MEETING

A PRE-CONSTRUCTION MEETING WITH THE **STARK COUNTY SOIL AND WATER CONSERVATION DISTRICT**, ENGINEER, **THE** CITY, CONTRACTOR, AND THE OWNER'S REPRESENTATIVE IS REQUIRED FOR THIS PROJECT PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITY. THE CONTRACTOR SHALL CONTACT THE CITY AND THE STARK COUNTY SOIL AND WATER CONSERVATION DISTRICT AT 330-451-7645 SEVENTY-TWO (72) HOURS PRIOR TO THE ANTICIPATED MEETING DATE TO SCHEDULE THIS MEETING.

THE CONTRACTOR SHALL REVIEW, APPROVE, AND SUBMIT TO THE ENGINEER SHOP DRAWINGS, PRODUCT DATA, SAMPLES AND SIMILAR SUBMITTALS REQUIRED FOR THE COMPLETION OF THE PROPOSED IMPROVEMENTS WITH REASONABLE PROMPTNESS AND IN SUCH SEQUENCE AS TO CAUSE NO DELAY IN THE WORK. CONSTRUCTION SHALL NOT BEGIN WORK NOR ORDER MATERIALS UNTIL ENGINEER HAS REVIEWED AND APPROVED REQUIRED SUBMITTALS.

THE EXISTING TOPOGRAPHIC INFORMATION USED FOR THE DESIGN OF THIS IMPROVEMENT AND DEPICTED THROUGHOUT THE CONSTRUCTION DRAWINGS WAS OBTAINED FROM AN ACTUAL TOPOGRAPHIC SURVEY PERFORMED BY **HAMMONTREE** & ASSOCIATES, LTD., AND/OR FROM COUNTY TOPOGRAPHIC MAPPING. THE CONTRACTOR SHALL VERIFY EXISTING DATA THAT COULD EFFECT COMPLETION OF THE PROPOSED IMPROVEMENTS PRIOR TO STARTING CONSTRUCTION.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING, PLACING, AND MAINTAINING CONSTRUCTION LAYOUT STAKES NECESSARY FOR THE PROPER COMPLETION OF THE WORK ASSOCIATED WITH THIS PROJECT. THE OWNER AND/OR ENGINEER WILL NOT BE RESPONSIBLE FOR STAKING HORIZONTAL OR VERTICAL CONTROL. BENCHMARKS WILL BE PROVIDED WITHIN AND/OR ADJACENT TO THE PROJECT SITE. LAYOUT FROM BENCHMARKS AND/OR ANY CONTROL POINTS SHOWN IN THE DRAWINGS, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. ANY DISCREPANCIES OUTSIDE NORMAL SURVEYING STANDARDS/LIMITS WITH THE BENCHMARK ELEVATIONS AND/OR CONTROL POINTS SHOWN SHALL BE BROUGHT THE IMMEDIATE ATTENTION OF THE ENGINEER.

DO NOT SCALE FROM THIS DRAWING. ALL WRITTEN DIMENSIONS SHALL GOVERN. ALL ANGLES ARE 90° UNLESS OTHERWISE NOTED. DIMENSIONS ARE TO FACE OF CURB AND/OR TO FACE OF BUILDING, UNLESS OTHERWISE NOTED.

WORK IN THE RIGHT-OF-WAY

HAMMONTREE & ASSOCIATES, LIMITED.

A PERMIT MUST BE OBTAINED FROM THE CITY ENGINEER AND/OR ODOT PRIOR TO ANY WORK BEING PERFORMED INSIDE A ROADWAY RIGHT-OF-WAY. THE CONTRACTOR MUST NOTIFY THE CITY ENGINEER'S OFFICE AND/OR ODOT 72 HOURS PRIOR TO ANY CONSTRUCTION INSIDE THE RIGHT-OF-WAY IN ORDER TO COORDINATE INSPECTION.

MAINTAINING TRAFFIC

THE CONTRACTOR SHALL SAFELY AND PROPERLY MAINTAIN TRAFFIC ADJACENT TO, THROUGH, AND/OR ALONG THE PROJECT ROUTE/SITE AS DESCRIBED BELOW AND IN ACCORDANCE WITH THE REQUIREMENTS OF THE OHIO DEPARTMENT OF TRANSPORTATION MANUAL OF CONSTRUCTION MATERIALS SPECIFICATIONS ITEM 614 MAINTAINING TRAFFIC. THE CONTRACTOR SHALL FURNISH, MAINTAIN, AND REMOVE ALL SIGNS, FLAGS, FLAGMEN, WATCHMEN, BARRICADES, SIGN SUPPORTS, CONES, BARRELS, AND INCIDENTALS IN CONFORMANCE WITH THE MOST RECENT REVISIONS OF THE CURRENT EDITION OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS. INTERFERENCE WITH VEHICULAR TRAFFIC SHALL BE KEPT TO A MINIMUM AT ALL TIMES. ALL OPEN TRENCHES AND EXCAVATIONS SHALL BE PROTECTED WITH DRUMS, BARRICADES, BARRIERS, ETC. ACCESS SHALL BE MAINTAINED AT ALL TIMES FOR EMERGENCY AND FIRE DEPARTMENT VEHICLES. ANY TEMPORARY LANE CLOSING MUST BE APPROVED BY THE ENGINEER AND THE PUBLIC AGENCY HAVING JURISDICTION OF THE ROADWAY IN WRITING WITH PRIOR NOTIFICATION GIVEN TO FIRE, POLICE AND OTHER EMERGENCY AGENCIES. TRAFFIC MUST BE MAINTAINED AT ALL TIMES IN A SAFE MANNER.

RESTORATION OF DISTURBED AREAS

EXISTING DRIVES, BERMS, LAWNS, TELEPHONE/POWER POLES, PAVEMENTS, RETAINING WALLS, CURBS, SIDEWALKS, SIGNS, MAILBOXES, FENCING, PAPER BOXES, STORM SEWERS, UTILITIES, LANDSCAPING, ITEMS/AREAS OR OTHER APPURTENANCES DISTURBED/DAMAGED DURING CONSTRUCTION BUT NOT SPECIFICALLY DESIGNATED FOR REMOVAL AND/OR REPLACEMENT SHALL BE RESTORED TO A CONDITION EQUAL TO THAT WHICH EXISTED PRIOR TO CONSTRUCTION AND TO THE COMPLETE SATISFACTION OF THE ENGINEER/OWNER. COST FOR THE RESTORATION OF THESE ITEMS WILL BE THE RESPONSIBILITY OF THE CONTRACTOR UNLESS SPECIFICALLY NOTED OTHERWISE OR PROVIDED FOR IN THE PLANS/SPECIFICATIONS.

IF ANY PAVEMENT IS DAMAGED OUTSIDE THE SAW-CUT LIMITS, THE CONTRACTOR IS RESPONSIBLE FOR THE REMOVAL AND REPAIR OF THAT PAVEMENT. RESTORATION OF EXISTING ROADWAYS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE TOWNSHIP, COUNTY, CITY, AND/OR OTHER AGENCIES HAVING AUTHORITY AND AT A MINIMUM SHALL MEET THE EXISTING PAVEMENT BUILDUP AND THICKNESS. COST FOR THE RESTORATION OF ROADWAYS WILL BE THE CONTRACTOR'S RESPONSIBILITY. NO PUBLIC ROADWAY SHALL BE DISTURBED WITHOUT PRIOR WRITTEN APPROVAL AND ACQUISITION OF ANY AND ALL NECESSARY PERMITS.

ANY SURVEY MONUMENTS, PERMANENT MARKERS OR PROPERTY PINS DISTURBED DURING CONSTRUCTION SHALL BE RESET BY A LICENSED SURVEYOR AT THE CONTRACTOR'S EXPENSE.

EXAMINATION OF SITE

THE CONTRACTOR SHALL BE RESPONSIBLE TO CLOSELY EXAMINE THE PROJECT SITE AND ALL ADJACENT AREA(S) AND APPRISE HIMSELF OF ANY ITEMS AND/OR CONDITIONS THAT COULD AFFECT THEIR BID AND/OR ABILITY TO COMPLETE THE PROPOSED IMPROVEMENTS. THIS SITE INSPECTION/EVALUATION SHALL BE COMPLETED PRIOR TO SUBMITTING A PROPOSAL OR BID.

REMOVAL AND/OR DEMOLITION OF EXISTING FACILITIES AND/OR UTILITIES

IF DESIGNATED, THE CONTRACTOR IS RESPONSIBLE FOR THE DEMOLITION, REMOVAL, AND DISPOSAL (IN A LOCATION APPROVED BY THE GOVERNING AUTHORITIES) OF ALL EXISTING FACILITIES SO THAT THE IMPROVEMENTS SHOWN ON THE REMAINING PLANS CAN BE CONSTRUCTED. ALL FACILITIES TO BE REMOVED SHALL BE UNDERCUT TO SUITABLE MATERIAL AND BROUGHT TO GRADE WITH SUITABLE COMPACTED FILL MATERIAL PER THE SPECIFICATIONS OUTLINED IN THESE PLANS OR GEOTECHNICAL REPORT, UNLESS OTHERWISE SPECIFIED BY THE GEOTECHNICAL ENGINEER. ALL TRENCHES, EXCAVATIONS, VOIDS RESULTING FROM THE REMOVAL OR DEMOLITION SHALL BE BACKFILLED WITH APPROVED MATERIAL COMPACTED TO 98% MAXIMUM DRY DENSITY PER ASTM D-698 (OR EQUIVALENT RELATIVE DENSITY) AND AS REQUIRED BY THE ENGINEER. THE CONTRACTOR SHALL BE LIABLE AND RESPONSIBLE TO SUPPORT AND PROTECT ALL EXISTING STRUCTURES, BUILDINGS, FOUNDATIONS, UTILITIES, AND/OR OTHER IMPROVEMENTS DURING THE REMOVAL AND/OR REPLACEMENT OR BACKFILL OF ITEMS SPECIFIED OR REQUIRED TO BE REMOVED. ALL POTENTIALLY HAZARDOUS/TOXIC MATERIALS MUST BE REMOVED FROM THE SITE AND BUILDING(S) PRIOR TO DEMOLITION AND PROPERLY DISPOSED OF. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS NEEDED FOR DEMOLITION AND DISPOSAL.

CLEAN SITE WITHIN THE SUBJECT PROPERTY, THE INTENT IS TO HAVE A CLEAN, CLEAR SITE, FREE OF ALL EXISTING ITEMS NOTED TO BE REMOVED IN ORDER TO PERMIT THE CONSTRUCTION OF THE NEW PROJECT.

THE ENGINEER/OWNER WILL NOT BE RESPONSIBLE FOR THE TYPE AND/OR SUITABILITY OF THE MATERIAL UNDERLYING THE LIMITS OF THE PROJECT. THE CONTRACTOR MUST APPRAISE HIMSELF OF ANY EXISTING SITE CONDITIONS WHICH MAY AFFECT HIS BID OR PERFORMANCE OF THE REQUIRED WORK. THE CONTRACTOR SHALL PERFORM WHATEVER INVESTIGATIONS AND/OR TESTING WHICH MAY BE NECESSARY TO ADEQUATELY DETERMINE/ESTIMATE TO THE SATISFACTION OF THE CONTRACTOR HIMSELF ANY AND ALL SITE CONDITIONS WHICH COULD EFFECT THE PERFORMANCE/COMPLETION OF THE PROPOSED IMPROVEMENTS. THIS COULD INCLUDE BUT NOT BE LIMITED TO UNSUITABLE AND/OR UNSTABLE SOIL/SUBSURFACE CONDITIONS, ROCK, WATER, (PERCHED OR FREE), SPRINGS, ETC. IF THE CONTRACTOR IS UNSURE OR UNABLE TO DETERMINE THE NATURE OF THE SUBSURFACE CONDITIONS, HE SHALL ASSUME THE WORST CASE. NO ADDITIONAL COMPENSATION WILL BE GIVEN FOR UNANTICIPATED AND/OR UNFORESEEN CONDITIONS.

CLEAN UP AT END OF PROJECT

PRIOR TO FINAL ACCEPTANCE OF THE PROJECT, THE CONTRACTOR SHALL BE RESPONSIBLE TO ENSURE THAT ALL SWALES, DITCHES, STORM SEWERS, CATCH BASINS, STORM MANHOLES, SANITARY SEWERS, SANITARY MANHOLES, GUTTERS. AND OTHER IMPROVEMENTS ARE CLEAN AND FREE OF ANY AND ALL DEBRIS.

PAVEMENT & ROADWAY

SAWCUTTING PAVEMENT

WHERE IT IS NECESSARY TO DISTURB EXISTING PAVEMENT. THE PAVEMENT SHALL BE SAW CUT IN A NEAT. STRAIGHT LINES. THE DEPTH OF THE SAWCUT SHALL BE FULL DEPTH OF PAVEMENT.

ITEM 703 - AGGREGATE

GRANULATED SLAG (GS) SHALL NOT BE PERMITTED FOR ANY ITEMS REQUIRING ODOT CMS ITEM 703 AS PART OF THE ITEM SPECIFICATION. ALL OTHER REQUIREMENTS OF SPECIFICATION 703 OF THE ODOT CMS SHALL STILL BE

EARTHWORK

ALL SITE PREPARATION AND EARTHWORK ACTIVITIES INCLUDING THOSE REQUIRED TO COMPLETE THE PROPER CONSTRUCTION OF THE DETENTION BASIN SHALL BE PERFORMED IN STRICT ACCORDANCE WITH THE STATE OF OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS AND THE RECOMMENDATIONS AND REQUIREMENTS OF THE PROJECT GEOTECHNICAL ENGINEER AS OUTLINED IN THE SUBSURFACE INVESTIGATION REPORT. THIS SHALL INCLUDE ALL REMOVALS, CLEARING AND GRUBBING, TOPSOIL REMOVAL/STRIP, PROOF ROLLING, SUBGRADE PREPARATION, SUITABILITY OF MATERIALS, PERFORMANCE OF ALL EXCAVATION(S), PLACEMENT OF EMBANKMENT AND BACKFILL, COMPACTION, SLOPE STABILITY, CORE TRENCH CONSTRUCTION, AND ALL OTHER RELATED AND/OR NECESSARY OPERATIONS/PROCEDURES. ALL EXCAVATION SHALL BE CONSIDERED AS UNCLASSIFIED EXCAVATION. ALL EARTHWORK ACTIVITY SHALL BE PERFORMED IN THE PRESENCE OF A QUALIFIED GEOTECHNICAL REPRESENTATIVE FURNISHED BY THE OWNER WHO WILL BE RESPONSIBLE TO DETERMINE COMPLIANCE WITH O.D.O.T. SPECIFICATIONS AND/OR THE GEOTECHNICAL RECOMMENDATIONS/REQUIREMENTS. IN CASE OF A CONFLICT BETWEEN THE O.D.O.T. SPECIFICATIONS AND THE GEOTECHNICAL ENGINEER'S RECOMMENDATIONS/REQUIREMENTS, THE GEOTECHNICAL ENGINEER'S RECOMMENDATION/REQUIREMENTS SHALL GOVERN.

COMPACTION REQUIREMENTS MAY VARY THROUGHOUT THE PROJECT SITE DEPENDENT UPON THE INTENDED USE/AREA (BUILDING AREA, ROADWAY, LAWN, ETC.)

TEMPORARY SOIL EROSION AND SEDIMENT CONTROL

THE CONTRACTOR SHALL INSTALL ALL SEDIMENTATION CONTROLS TO MINIMIZE SOIL EROSION AND OFF-SITE SILTATION BEFORE ANY CLEARING, GRUBBING OR EARTHWORK HAS BEGUN. THE CONTRACTOR SHALL PREVENT AND/OR REDUCE AND CONTROL SOIL EROSION RESULTING FROM THE PROPOSED IMPROVEMENTS. THE USE OF SILT FENCING, JUTE MATTING, TEMPORARY SEEDING, SOD, SILT CHECKS, INLET PROTECTION AROUND ALL CATCH BASINS, STABILIZED CONSTRUCTION ENTRANCE(S), ETC. WILL BE REQUIRED. SEDIMENT CONTROL STRUCTURES/DEVICES SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUAL <u>RAINWATER AND LAND DEVELOPMENT — OHIO'S STANDARDS FOR</u> STORMWATER MANAGEMENT LAND DEVELOPMENT AND URBAN STREAM PROTECTION, LATEST EDITION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTINUED INSPECTION AND MAINTENANCE OF ALL SEDIMENT CONTROL DEVICES. THE CONTRACTOR SHALL FOLLOW THE REQUIREMENTS SET FORTH ON THE APPROVED STORM WATER POLLUTION PREVENTION PLAN IF APPLICABLE, OR ON THE DETAILED CONSTRUCTION PLANS.

TOPSOIL SHALL BE STRIPPED AND STOCKPILED FOR USE IN FINAL LANDSCAPING AND IN AREAS SELECTED BY OWNER. THE CONTRACTOR SHALL FURNISH AND PLACE 6" OF APPROVED SCREENED TOPSOIL ON ALL AREAS DISTURBED THAT ARE TO BE STABILIZED BY PERMANENT SEEDING, ODOT ITEM 659.

THE CONTRACTOR SHALL BE RESPONSIBLE TO PROPERLY CONTROL DUST FROM THE PROJECT SITE AS NECESSARY/REQUIRED TO MAINTAIN SAFE VISIBILITY WITHIN AND/OR ADJACENT TO THE SITE AND TO AVOID IMPACT ON ADJACENT BUILDINGS AND/OR PROPERTIES. METHODS FOR DUST CONTROL MUST BE APPROVED BY THE ENGINEER.

DISPOSAL OF EXCESS. UNSUITABLE. AND/OR UNUSABLE MATERIALS

IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DISPOSE OF ANY EXCESS, UNSUITABLE AND/OR UNUSABLE MATERIALS RESULTING FROM THE COMPLETION OF THE PROPOSED IMPROVEMENTS THAT ARE NOT OTHERWISE NEEDED/REQUIRED WITHIN THE LIMITS OF THIS PROJECT. ALL TIMBER, LOGS, BRUSH, RUBBISH, AND VEGETATIVE MATTER WHICH WILL INTERFERE WITH THE GRADING OPERATION OR AFFECT THE PLANNED STABILITY OF FILL AREAS SHALL BE REMOVED FROM THE PROJECT CONSTRUCTION AREA. THE CONTRACTOR SHALL BE RESPONSIBLE TO OBTAIN WRITTEN PERMISSION FROM ANY PROPERTY OWNER PRIOR TO PLACEMENT OF ANY MATERIALS FROM THIS PROJECT ONTO OTHER PROPERTIES AND SHALL FURNISH THE OWNER/ENGINEER WITH COPIES OF THESE WRITTEN AGREEMENTS. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ANY AND ALL CLAIMS RESULTING FROM THE PLACEMENT/DISPOSAL OF EXCESS. UNSUITABLE. AND/OR UNUSABLE MATERIALS ONTO OTHER PROPERTIES INCLUDING BUT NOT LIMITED TO ENVIRONMENTAL ISSUES. NO MATERIAL SHALL BE REMOVED FROM THE PROJECT SITE WITHOUT PERMISSION OF THE CONSTRUCTION MANAGER OR ENGINEER.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE IMPORTATION OF ANY BORROW MATERIAL NECESSARY TO COMPLETE THE JOB.

TEMPORARY SEEDING AND MULCHING

THE CONTRACTOR SHALL BE RESPONSIBLE TO SEED, MULCH, AND FERTILIZER PER ODOT ITEM 659 WITHIN SEVEN (7) DAYS ALL DISTURBED AREAS WHERE CONSTRUCTION ACTIVITY HAS OCCURRED BUT WILL TEMPORARILY REMAIN IDLE FOR A PERIOD OF MORE THAN 14 DAYS, AND OTHER DISTURBED AREAS WHERE EROSION MAY BECOME A PROBLEM AS DETERMINED BY THE ENGINEER.

PROPOSED ELEVATIONS SHOWN SHALL NOT BE CHANGED WITHOUT APPROVAL OF THE ENGINEER. UNLESS OTHERWISE INDICATED AT A SPECIFIC LOCATION, ALL FINISHED GRADES AT THE LIMITS OF NEW WORK ARE TO CONFORM TO AND MATCH EXISTING GRADES. THE CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE AT ALL TIMES AND SHALL BACKFILL AND GRADE EXCAVATED AREAS SO AS TO ELIMINATE PONDING ON THE SITE. SITE GRADING SHALL PROVIDE POSITIVE DRAINAGE TO CATCH BASINS OR SHEET FLOW OFF OF AREAS, THUS PREVENTING THE PONDING OF WATER ON SITE.

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ITEM 204 - PROOF ROLLING

ANY UNSUITABLE SOILS ENCOUNTERED IN PROPOSED PAVEMENT AREAS SHALL BE REMOVED AND REPLACED WITH COMPACTED MATERIAL APPROVED BY THE ENGINEER.

PRIOR TO PAVING, THE SUBGRADE SHALL BE PROOF ROLLED PER ODOT CMS ITEM 204 OR TESTED WITH A FULLY LOADED TANDEM AXLE DUMP TRUCK (IF APPROVED BY THE ENGINEER) FURNISHED BY THE CONTRACTOR. ANY YIELDING AREAS IN THE SUBGRADE SHALL BE REMOVED AND OR REPLACED PER THE GEOTECHNICAL ENGINEER'S RECOMMENDATIONS.

PROPOSED PAVEMENT AREAS ARE TO BE PROOF-ROLLED PER SPECIFICATIONS IMMEDIATELY PRIOR TO CONSTRUCTION. IF ANY AREAS ARE FOUND TO BE "SOFT" OF "SPONGY", THE CONTRACTOR IS TO COORDINATE THE REMOVAL OR PROCEDURE WITH THE GEOTECHNICAL ENGINEER.

ALL COMPACTED FILLS RELATED TO THE CONSTRUCTION OF THE PROPOSED PROJECT SHALL BE PLACED IN ACCORDANCE WITH ODOT ITEM 203. DURING CONSTRUCTION, THESE COMPACTED FILLS SHALL BE TESTED USING THE NUCLEAR DENSOMETER METHOD.

PRIOR TO PLACEMENT OF ANY COMPACTED FILLS, PROCTOR CURVES SHALL BE ESTABLISHED FROM PROPOSED BORROW MATERIAL SAMPLES.

> MIN. COMPACTION REQUIREMENTS PERCENT LABORATORY MAX.

COMPACTION REQUIREMENT SHALL BE AS FOLLOWS:

A. IN ACCORDANCE WITH THE GEOTECHNICAL ENGINEER'S RECOMMENDATIONS.

UNACCEPTABLE

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B. MAX LABORATORY DRY WEIGHT #/CF 104.9 & UNDER 105-119.9 120 & OVER

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<u>JTILITIES</u>

THE LOCATION OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE AS OBTAINED FROM THE OWNERS AS REQUIRED BY SECTION 153.64 O.R.C.

THE LOCATIONS OF ALL EXISTING UTILITIES SHOWN ON THE PLANS HAVE BEEN DETERMINED FROM THE BEST INFORMATION AVAILABLE AND WERE OBTAINED BY FIELD OBSERVATIONS, FROM EXISTING RECORDS, AND/OR FROM THE OWNERS OF THE RESPECTIVE UTILITIES AND ARE GIVEN FOR THE CONVENIENCE OF THE CONTRACTOR. THE INFORMATION AS SHOWN IS BELIEVED TO BE CORRECT, HOWEVER, THE COMPLETENESS AND ACCURACY OF THIS INFORMATION CANNOT BE GUARANTEED. UTILITIES SHOWN DO NOT NECESSARILY REPRESENT ALL UNDERGROUND OR OVERHEAD UTILITIES ADJACENT TO OR UPON THE PREMISES SHOWN ON THE PLAN.

UTILITY NOTIFICATION

AT LEAST TWO WORKING DAYS PRIOR TO COMMENCING OPERATIONS ON THIS PROJECT, THE CONTRACTOR(S) SHALL NOTIFY THE ENGINEER, THE OHIO UTILITIES PROTECTION SERVICE (OUPS), THE OIL & GAS PRODUCERS UNDERGROUND PROTECTION SERVICE (OGPUPS), AND ALL NON-REGISTERED UTILITY OWNERS (PUBLIC AND/OR PRIVATE), THAT MAY HAVE UTILITY LINES OR FACILITIES WHICH MAY BE ALONG THE ROUTE, WITHIN, AND/OR ADJACENT TO THE IMPROVEMENT OF THIS PROJECT, THEIR INTENTION TO BEGIN CONSTRUCTION ACTIVITY ON THIS PROJECT. THE OWNERS OF ANY UNDERGROUND UTILITY FACILITY SHALL, WITHIN 48 HOURS AFTER NOTICE IS RECEIVED, EXCLUDING SATURDAYS, SUNDAYS, AND OTHER LEGAL HOLIDAYS, STAKE, MARK OR OTHERWISE DESIGNATE THE EXISTENCE AND/OR LOCATION OF THE UNDERGROUND UTILITY FACILITIES IN THE CONSTRUCTION AREA IN SUCH A MANNER AS TO INDICATE THEIR COURSE TOGETHER WITH APPROXIMATE DEPTH AT WHICH THEY WERE INSTALLED. THE MARKING AND/OR LOCATING SHALL BE COORDINATED TO STAY APPROXIMATELY FIVE WORKING DAYS AHEAD OF THE PLANNED CONSTRUCTION. OUPS: 1-800-362-2764 (CONTACT NON-MEMBERS DIRECTLY). OGPUPS: 1-800-925-0988

<u>VERIFICATION OF UNDERGROUND UTILITIES</u>

THE UTILITIES SHOWN ON THE PLANS CANNOT BE CERTIFIED AS COMPLETE OR CORRECT. THE CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY THE EXISTENCE AS WELL AS THE ACTUAL LOCATION, ALIGNMENT, AND ELEVATIONS OF ALL EXISTING UTILITIES/FACILITIES WITHIN AND/OR ADJACENT TO THE GENERAL LIMITS OF THESE IMPROVEMENTS INCLUDING WATERLINES, SANITARY AND STORM SEWERS, GAS LINES, COMMUNICATION LINES/ BANKS, ELECTRONIC LINES, ETC. PRIOR TO ORDERING MATERIALS OR BEGINNING WORK. THE CONTRACTOR SHALL NOT PROCEED WITH ANY WORK UNTIL THE LOCATIONS, ELEVATIONS AND ANY DISCREPANCIES OF ALL EXISTING UTILITIES WHICH COULD EFFECT COMPLETION OF THIS IMPROVEMENT HAVE BEEN FIELD CHECKED AND VERIFIED. THIS WILL LIKELY REQUIRE EXPLORATORY EXCAVATIONS TO BE PREFORMED BY THE CONTRACTOR FOR WHICH HE WILL NOT BE DIRECTLY REIMBURSED. THE CONTRACTOR SHALL NOT ASSUME THAT EXISTING UTILITIES/CONDUITS WERE INSTALLED AT TYPICAL/STANDARD DEPTHS OR AT UNIFORM SLOPES/GRADES/DEPTHS BETWEEN ACCESS POINTS (CATCH BASINS, MANHOLES, JUNCTION CHAMBERS, ETC.). WHERE PLANS PROVIDE FOR A PROPOSED CONDUIT TO BE CONNECTED TO. OR CROSS OVER OR UNDER AN EXISTING SEWER OR UNDERGROUND UTILITY. THE CONTRACTOR SHALL LOCATE THE EXISTING PIPES OR UTILITIES BOTH AS TO LINE, GRADE, AND ELEVATION BEFORE STARTING TO INSTALL THE PROPOSED CONDUIT. ANY CONFLICTS AND/OR DISCREPANCIES FROM THE PLAN INFORMATION SHALL IMMEDIATELY BE BROUGHT TO THE ATTENTION OF THE ENGINEER SO THAT THE APPROPRIATE ADJUSTMENTS IN ALIGNMENT AND/OR GRADE MAY BE MADE PRIOR TO THE START OF CONSTRUCTION. FAILURE BY THE CONTRACTOR TO VERIFY AND/OR DETERMINE EXISTING INFORMATION AS INDICATED/REQUIRED WILL RESULT IN THE CONTRACTOR BEING RESPONSIBLE FOR ANY CHANGES NECESSARY TO COMPLETE THE WORK SPECIFIED WITHOUT ADDITIONAL COMPENSATION.

THE CONTRACTOR SHALL VERIFY THE SIZE, LOCATION, INVERT ELEVATION, AND CONDITION OF ALL EXISTING UTILITIES AT THE POINT OF CONNECTIONS PRIOR TO ANY INSTALLATION. THE CONTRACTOR IS TO ENSURE EXISTING UTILITIES ARE IN GOOD WORKING ORDER. ANY UTILITIES FOUND DURING EXCAVATION, NOT SHOWN ON THESE PLANS, SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ENGINEER.

THE CONTRACTOR SHALL LOCATE AND IDENTIFY ALL UTILITY CONFLICTS AND COORDINATE WITH THE RESPECTIVE UTILITY COMPANY, PRIOR TO THE REMOVAL AND/OR RELOCATION OF THESE UTILITIES, INCLUDING SERVICE LATERALS.

THE CONTRACTOR SHALL COORDINATE WITH THE UTILITY COMPANY CONCERNING PORTIONS OF WORK WHICH MAY BE PERFORMED BY THE UTILITY COMPANY'S FORCES AND ANY FEES WHICH ARE TO BE PAID TO THE UTILITY COMPANY FOR THEIR SERVICES. THE CONTRACTOR IS RESPONSIBLE FOR PAYING ALL FEES AND CHARGES.

ANY RELOCATION OF EXISTING UTILITIES SHALL BE COORDINATED WITH THE RESPECTIVE UTILITY COMPANY BY THE CONTRACTOR IN ADVANCE OF THEIR WORK AS NOT TO INTERFERE WITH THE CONTRACTOR'S WORK.

THE CONTRACTOR SHALL BE RESPONSIBLE TO CLOSELY COORDINATE THEIR WORK WITH ALL UTILITY COMPANIES TO MINIMIZE/AVOID POSSIBLE DELAYS IN THE COMPLETION OF THE REQUIRED IMPROVEMENTS. DELAYS WILL NOT BE THE RESPONSIBILITY OF THE OWNER NOR THE ENGINEER.

PROTECTION OF UTILITIES

THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS/MEASURES NECESSARY TO PROTECT AND SUPPORT ANY EXISTING UTILITIES/ FACILITIES LOCATED ALONG THE ROUTE OF THE PROPOSED IMPROVEMENTS, WITHIN THE GENERAL PROJECT LIMITS, AND/OR ENCOUNTERED DURING THE COMPLETION OF THE PROPOSED IMPROVEMENTS AS DIRECTED/APPROVED BY THE OWNERS OF THE RESPECTIVE UTILITIES AND THE ENGINEER. UTILITIES MUST BE KEPT IN SERVICE AT ALL

WATER SERVICE SHALL NOT BE INTERRUPTED AT ANY TIME FOR ANY REASON. STORM, SANITARY, AND OTHER UTILITIES SHALL BE MAINTAINED / PROVIDED WITHOUT INTERRUPTION.

THE CONTRACTOR IS TO HAND EXCAVATE, WITH EXTREME CAUTION, AREAS AROUND GAS SERVICE AND/OR MAINS WHERE THEY MAY BE IN CONFLICT. THUS EXPOSING THE SERVICE/MAIN AND DETERMINE IF IT IS IN CONFLICT. IF THERE IS A CONFLICT THE CONTRACTOR IS TO NOTIFY THE UTILITY AND COORDINATE ITS RELOCATION.

DAMAGE TO EXISTING UTILITIES/SERVICES

THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ANY DAMAGE AND OR DISRUPTION TO EXISTING UTILITY LINES/MAINS AND SERVICES. ALL COSTS ASSOCIATED WITH THE REPAIR, REPLACEMENT, AND/OR INTERRUPTION OF SERVICES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. NO ADDITIONAL COMPENSATION WILL BE PROVIDED BY THE OWNER OR THE ENGINEER. ALL LIABILITY SHALL BE BORNE BY THE CONTRACTOR.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE PROPER HORIZONTAL AND VERTICAL DISTANCES BETWEEN ALL UTILITIES AS REQUIRED BY THE UTILITY OWNERS AND JURISDICTIONAL AGENCIES.

ALL TRENCHES SHALL BE BACKFILLED OR SECURELY PLATED DURING NON-WORKING HOURS.

BACKFILL OF TRENCHES ADJACENT TO UTILITY POLES

WHERE PROPOSED UTILITIES (SANITARY SEWER, STORM SEWER, AND/OR WATERLINE) ARE TO BE LOCATED ADJACENT TO AN EXISTING UTILITY POLÈ, THE UTILITY TRENCH SHALL BE PROPERLY AND COMPLETELY BACKFILLED AND COMPACTED IMMEDIATELY AFTER THE INSTALLATION. THE UTILITY SHALL BE INSTALLED AND BACKFILLED AS A TYPE B CONDUIT PER ODOT ITEM 611 FOR A MINIMUM LENGTH OF 10 FEET, 5' OF EACH SIDE OF THE UTILITY POLE. THE CONTRACTOR SHALL BE RESPONSIBLE TO PROPERLY SUPPORT AND MAINTAIN ANY EXISTING UTILITY POLE DURING CONSTRUCTION.

STORM SEWERS

ALL PROPOSED STORM SEWERS SHALL MEET THE REQUIREMENTS OF O.D.O.T. ITEM 611 AS SPECIFIED AND AS DIRECTED BY THE ENGINEER. BEDDING AND BACKFILL SHALL BE PER THE APPLICABLE DETAIL. (SLAG NOT PERMITTED) STORM SEWER PIPE MATERIALS (EXCEPT AS SPECIFICALLY NOTED OTHERWISE) SHALL MEET THE REQUIREMENTS OF O.D.O.T. 706.02 (REINFORCED CONCRETE CIRCULAR PIPE), 707.33 (SMOOTH LINED CORRUGATED POLYETHYLENE), OR 707.65 (POLYPROPYLENE CORRUGATED DOUBLE WALL PIPE). PIPE MEETING 707.33 OR 707.65 SHALL HAVE BELL AND SPIGOT ENDS WITH A GASKET SEAL TO PROVIDE A WATERTIGHT JOINT. (ASTM F-477) LEAKAGE TESTING WILL BE PERFORMED AS DIRECTED BY THE ENGINEER.

BEDDING MATERIAL SHALL MEET THE REQUIREMENTS/SPECIFICATIONS OF THE PIPE MANUFACTURER AND SHALL BE AS SPECIFIED.

CATCH BASIN. MANHOLE. VALVE BOX. ETC. ADJUSTMENT TO GRADE

THE CONTRACTOR SHALL ADJUST AS NECESSARY ALL TOP OF GRATE/TOP OF CASTING ELEVATIONS FOR PROPOSED/EXISTING CATCH BASINS, MANHOLES, VALVE BOXES, ETC. TO MATCH FINAL ELEVATIONS AND GRADES AS SHOWN IN THE PLANS. NO ADDITIONAL COMPENSATION WILL BE PROVIDED FOR THIS WORK. IT SHALL BE THE RESPONSIBILITY OF THE PAVING CONTRACTOR TO MAKE FINAL ADJUSTMENT TO CASTINGS ELEVATIONS IN PAVING AREAS.

CATCH BASINS & STORM MANHOLES

ALL STORM SEWER CATCH BASINS AND MANHOLES SHALL MEET THE REQUIREMENTS OF ODOT ITEM 611, THE CURRENT ODOT STANDARD CONSTRUCTION DRAWINGS AND AS DETAILED ON THESE DRAWINGS. PIPE OPENINGS SHALL BE CAST INTO ALL PRECAST CATCH BASINS AND MANHOLES. KNOCKOUT PANELS/SIDES ARE UNACCEPTABLE.

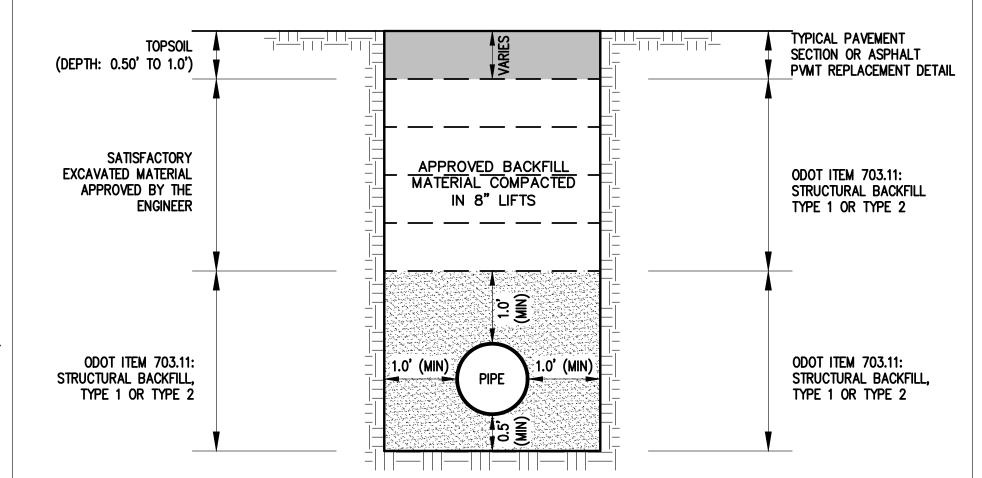
CATCH BASIN GRATES WITHIN PAVEMENT TO BE TRAFFIC BEARING. BICYCLE SAFE GRATES ARE REQUIRED, UNLESS OTHERWISE NOTED.

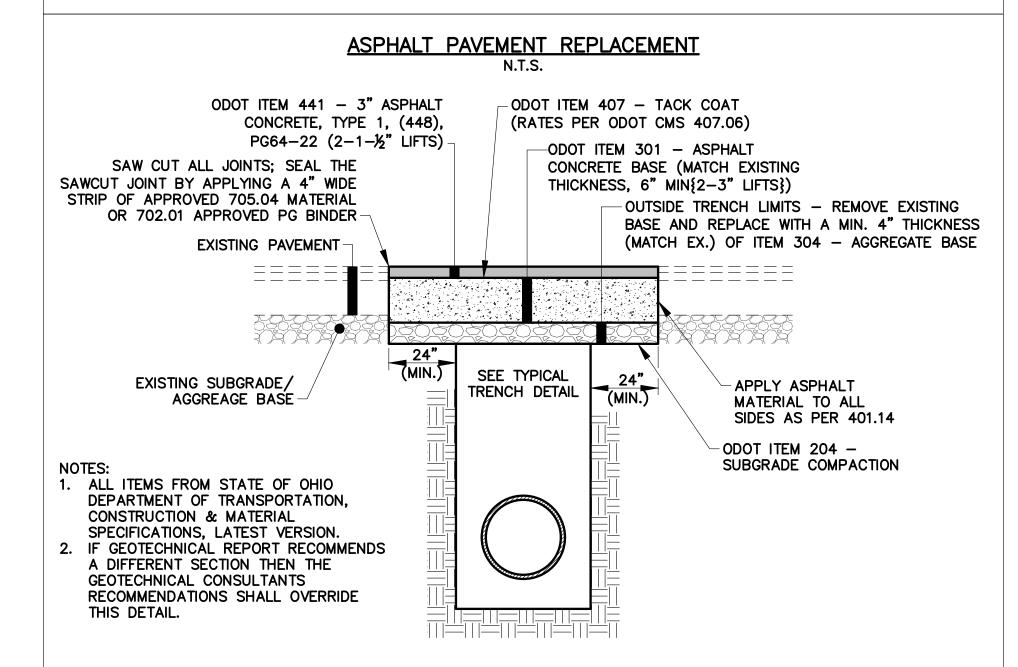
ALL YARD DRAINS WHERE SPECIFIED SHALL BE PVC INLETS (SEE PLANS FOR SIZE), NYLOPLAST OR APPROVED EQUAL W/H-25 CASTINGS APPROVED BY THE ENGINEER.

TYPICAL TRENCH DETAIL

TRENCHES OUTSIDE PAVED AREAS

TRENCHES UNDER PAVED AREAS





EXISTING LEGEND

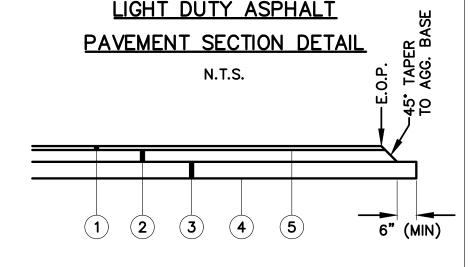
- (A) EXISTING CONCRETE PAVEMENT
- (B) EXISTING RANDOM MATERIAL SUB-GRADE / EXISTING AGGREGATE BASE
- (C) EXISTING RANDOM MATERIAL SUB-GRADE OR FOR NEW TRENCH COMPACTED TYPE I BACKFILL ODOT ITEM 304 OR ODOT ITEM 613 - LOW STRENGTH MORTAR

PROPOSED LEGEND

- ODOT ITEM 255 FULL DEPTH PAVEMENT REMOVAL AND RIGID 1) REPLACEMENT, CLASS QC MS, AS PER PLAN; REPLACEMENT
- CONCRETE TO MATCH EXISTING THICKNESS
- REMOVE EXISTING BASE AND REPLACE WITH 4" MIN. THICKNESS (MATCH EXISTING THICKNESS) OF ODOT ITEM 304, AGGREGATE BASE, ODOT ITEM 411 CRUSHED AGGREGATE OR ODOT ITEM 613 LSM.
- (3) ODOT ITEM 204, SUBGRADE COMPACTION
- TIE /DOWEL BARS SEE ODOT ITEM 305 FOR ADDITIONAL INFORMATION. FOR SIZE AND SPACING, SEE ODOT SCD BP-2.1, BP-2.2 AND BP-2.5.

EXISTING CONCRETE PAVEMENT TYPICAL

SECTION DETAIL PAY LIMITS (SEE NOTE 3) NOT TO SCALE -SAW CUT FULL DEPTH (NOTES 4 & 5) 2' MIN. SEE SEE SEE NOTE 3B NOTE 3B 1 2 3



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1) ITEM 441 1-1/2" ASPHALT CONCRETE SURFACE, TYPE 1, (448), PG64-22

2) ITEM 441 2 ½" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448)

3) ITEM 304 6" AGGREGATE BASE 4) ITEM 204 SUBGRADE COMPACTION & PROOF ROLL 5) ITEM 407 TACK COAT (PER ODOT CMS 407.06)

ALL ITEMS FROM STATE OF OHIO DEPARTMENT OF TRANSPORTATION, CONSTRUCTION & MATERIAL SPECIFICATIONS, LATEST VERSION.

IF GEOTECHNICAL REPORT RECOMMENDS A DIFFERENT SECTION THEN THE GEOTECHNICAL CONSULTANTS

RECOMMENDATIONS SHALL OVERRIDE THIS DETAIL.

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EROSION CONTROL NOTES

ALL PROPERTIES ADJACENT TO THE SITE OF SOIL-DISTURBING ACTIVITY SHALL BE PROTECTED TO THE MAXIMUM EXTENT PRACTICABLE, FROM SOIL EROSION AND SEDIMENT RUNOFF AND DRAINAGE, INCLUDING, BUT NOT LIMITED TO PRIVATE PROPERTIES, NATURAL AND ARTIFICIAL WATERWAYS, WETLANDS, STORM SEWERS AND PUBLIC LANDS.

- 2. CONSTRUCTION SITE EROSION AND SEDIMENT CONTROL PRACTICES USED TO SATISFY THIS REQUIREMENT SHALL CONFORM, AS A MINIMUM, TO STATE OF OHIO STANDARDS AS SET FORTH IN THE MOST—CURRENT EDITION OF THE RAINWATER AND LAND DEVELOPMENT MANUAL, DEFINED BY THE OHIO DEPARTMENT OF NATURAL RESOURCES DIVISION OF SOIL AND WATER CONSERVATION AND NATURAL RESOURCE CONSERVATION SERVICE AND SHALL CONFORM TO THE MOST CURRENT OHIO ENVIRONMENTAL PROTECTION AGENCY, OHIO REVISED CODE CHAPTER 6111 REQUIREMENTS.
- 3. EROSION AND SEDIMENT CONTROL PLAN APPROVALS ISSUED IN ACCORDANCE WITH THESE RULES DO NOT RELIEVE THE OWNER OF RESPONSIBILITY FOR OBTAINING ALL OTHER NECESSARY PERMITS AND OR APPROVALS FROM FEDERAL STATE, AND/OR COUNTY AGENCIES. IF REQUIREMENTS VARY, THE MOST STRINGENT REQUIREMENTS SHALL BE FOLLOWED.
- FROSION AND SEDIMENT CONTROL PRACTICES AT THE SITE, AND AS IDENTIFIED IN THE ESC PLAN SHALL COMPLY WITH THE FOLLOWING:
- A. AN APPROVED EROSION AND SEDIMENT CONTROL PLAN OR APPROVAL LETTER FROM THE **LOCAL** SWCD SHALL BE LOCATED ON SITE FOR REVIEW.
- B. LIMITS TO CLEARING AND GRADING SHALL BE SHOWN ON ESC PLANS. LIMITS TO CLEARING AND GRADING SHALL BE CLEARLY MARKED ON SITE WITH SIGNAGE, FLAGGING, AND/OR FENCING ETC.
- C. INSTALL EROSION AND SEDIMENT PERIMETER CONTROLS AS A FIRST ACTION OF CONSTRUCTION AS SPECIFIED BY CONSTRUCTION SEQUENCE. THIS SHALL INCLUDE AND IS NOT LIMITED TO PROTECTIVE BMP'S FOR STREAM CORRIDORS AND CROSSINGS, WETLANDS, SITE ENTRANCE, SEDIMENT TRAPS & BASINS, BARRIERS, AND DIVERSION DIKES.
- D. CONCENTRATED STORM WATER RUNOFF SHALL PASS THROUGH A SEDIMENT CONTROL DEVICE BEFORE EXITING THE SITE BOUNDARIES. CONCENTRATED RUNOFF FROM BARE SOIL AREAS SHALL BE DIVERTED INTO A SETTLING POND OR SEDIMENT CONTROL STRUCTURE, OR OTHER APPROVED SEDIMENT BARRIER BEFORE LEAVING THE SITE.
- E. EARTHEN STRUCTURES SUCH AS DAMS, BASINS, STREAM MODIFICATIONS AND WATER DIVERSIONS SHALL BE SEEDED AND MULCHED WITH IN SEVEN (7) DAYS OF THE COMPLETION OF INSTALLATION. DAMS SHALL CONFORM TO THE OHIO DAM LAWS (ORC 1521.06).
- F. STABILIZATION OF CRITICAL AREAS WITHIN 50 FEET OF ANY STREAM OR WETLAND SHALL BE TEMPORARILY STABILIZED WITHIN TWO (2) DAYS OF DISTURBANCE IF AREA WILL REMAIN INACTIVE FOR SEVEN (7) DAYS OR LONGER AND PERMANENTLY STABILIZED WITHIN TWO (2) DAYS OF REACHING FINAL GRADE. CONSTRUCTION VEHICLES SHALL AVOID STREAMS AND THE 50 FOOT BUFFER AREAS. IF AN ACTIVE DRAINAGE WAY MUST BE CROSSED BY CONSTRUCTION VEHICLES REPEATEDLY DURING CONSTRUCTION, A TEMPORARY STREAM CROSSING SHALL BE CONSTRUCTED ACCORDING TO THE SPECIFICATIONS IN THE RAINWATER & LAND DEVELOPMENT MANUAL. CONSTRUCTION OF BRIDGES, CULVERTS OR SEDIMENT CONTROL STRUCTURES SHALL NOT PLACE SOIL, DEBRIS AND OTHER FINE PARTICULATE MATERIAL INTO OR CLOSE TO THE WATER RESOURCE IN SUCH A MANNER THAT IT MAY SLOUGH, SLIP OR ERODE.
- G. STORM SEWER INLETS SHALL BE PROTECTED SO THAT SEDIMENT-LADEN RUNOFF WILL NOT ENTER THE STORM SEWER SYSTEM WITHOUT FIRST BEING FILTERED AND/OR TREATED. SANITARY SEWER MANHOLES SHALL BE PROTECTED SO THAT NO STORM RUNOFF WILL ENTER THE SANITARY SEWER SYSTEM.
- H. RE-VEGETATE SOIL. TEMPORARY SOIL STABILIZATION SHALL OCCUR WITHIN SEVEN (7) DAYS AFTER ROUGH GRADING IF THE AREA WILL REMAIN IDLE LONGER THAN FOURTEEN (14) DAYS. PERMANENT SOIL STABILIZATION SHALL BE INSTALLED WITHIN SEVEN (7) DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE. PERMANENT VEGETATION IS A GROUND COVER DENSE ENOUGH TO COVER 80% OF THE SOIL SURFACE AND MATURE ENOUGH TO SURVIVE WINTER WEATHER CONDITION.
- I. SOIL STOCKPILES SHALL BE STABILIZED OR PROTECTED TO PREVENT SOIL LOSS. STABILIZATION SHALL BE REQUIRED IF STOCKPILES ARE LOCATED WITHIN CRITICAL AREAS NEAR STREAMS OR WETLANDS, OR IF DETERMINED BY THE **LOCAL** SWCD THAT SEDIMENT FROM STOCKPILES WILL LEAVE THE SITE.
- J. UNSTABLE SOILS PRONE TO SLIPPING OR SLOUGHING SHALL NOT BE CLEARED, GRADED, EXCAVATED, FILLED OR HAVE LOADS IMPOSED UPON THEM UNLESS THE WORK IS PLANNED BY A QUALIFIED PROFESSIONAL ENGINEER AND INSTALLED IN ACCORDANCE WITH THE ESC PLAN. CUT AND FILL SLOPES SHOULD BE DESIGNED TO MINIMIZE EROSION PROBLEMS. ADEQUATE SLOPE DESIGN INCLUDES USE OF ROUGH SOIL SURFACE ALONG THE FACE OF THE SLOPE; WATER DIVERSION ALONG THE TOP OF THE SLOPE AWAY FROM THE FACE; TERRACES TO REDUCE SLOPE LENGTH; DELIVERY OF CONCENTRATED STORM WATER FLOWS TO THE BASE OF THE SLOPE VIA ADEQUATE CHANNEL OR PIPE; AND DRAINAGE FOR WATER SEEPS IN THE SLOPE THAT ENDANGER SLOPE STABILITY.
- K. SOIL SHALL BE REMOVED FROM PAVED SURFACES AND/OR PUBLIC ROADS AT THE END OF EACH DAY IN SUCH A MANNER THAT DOES NOT CREATE OFF—SITE SEDIMENTATION IN ORDER TO ENSURE SAFETY AND ABATE OFF—SITE SOIL LOSS. COLLECTED SEDIMENTS SHALL BE PLACED IN A STABLE LOCATION ON SITE OR TAKEN OFF—SITE TO A STABLE LOCATION.
- L. STABILIZE DISTURBED OR MODIFIED DRAINAGE WAYS. REDUCE EROSION EFFECTS OF STORM WATER BY USING AND/OR MAINTAINING GRASSED SWALES, INFILTRATION STRUCTURES, OR WATER DIVERSIONS.
- M. SEDIMENT AND EROSION CONTROLS SHALL BE INSPECTED ONCE EVERY SEVEN (7) DAYS AND WITHIN 24 HOURS OF A 0.5" OR GREATER RAINFALL EVENT. A WRITTEN LOG OF THESE INSPECTIONS AND IMPROVEMENTS TO CONTROLS SHALL BE KEPT ON SITE. THE INSPECTIONS SHALL INCLUDE THE DATE OF INSPECTION, NAME OF INSPECTOR, WEATHER CONDITIONS, OBSERVATIONS, ACTIONS TAKEN TO CORRECT ANY PROBLEMS AND THE DATE CORRECTIVE ACTIONS WERE TAKEN.
- N. TRENCHES FOR UNDERGROUND UTILITY LINES AND PIPES SHALL BE TEMPORARILY STABILIZED WITHIN SEVEN (7) DAYS IF THEY ARE TO REMAIN INACTIVE FOR THIRTY (30) DAYS. TRENCH DEWATERING DEVICES SHALL DISCHARGE IN A MANNER THAT FILTERS SOIL—LADEN WATER BEFORE DISCHARGING IT TO A RECEIVING DRAINAGE DITCH OR POND. IF SEEDING, MULCHING, OR OTHER EROSION AND SEDIMENT CONTROL MEASURES WERE PREVIOUSLY INSTALLED, THESE PROTECTIVE MEASURES SHALL BE REINSTALLED.
- O. DISTURBED AREAS WHICH WILL REMAIN UNWORKED FOR A PERIOD OF 14 DAYS OR MORE SHALL BE STABILIZED WITH SEEDING AND MULCHING OR OTHER APPROPRIATE MEANS WITHIN 7 DAYS.
- P. SOLID, SANITARY AND TOXIC WASTE MUST BE DISPOSED OF IN A PROPER MANNER IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL REGULATIONS. IT IS PROHIBITED TO BURN, BURY OR POUR OUT ONTO THE GROUND OR INTO THE STORM SEWERS ANY SOLVENTS, PAINTS, STAINS, GASOLINE, DIESEL FUEL, USED MOTOR OIL, HYDRAULIC FLUID, ANTIFREEZE, CEMENT CURING COMPOUNDS AND OTHER SUCH TOXIC OR HAZARDOUS WASTES. STORAGE TANKS SHOULD BE LOCATED IN DIKED AREAS AWAY FROM ANY DRAINAGE CHANNELS. THE DIKED AREA SHOULD HOLD A VOLUME 110% OF THE LARGEST TANK.
- Q. OFF—SITE VEHICLE TRACKING SEDIMENT SHALL BE MINIMIZED. CONSTRUCTION VEHICLES ARE LIMITED TO THE CONSTRUCTION ACCESS ROAD(S) NOTED ON THE PLAN. OFFSITE SEDIMENT TRACKING SHALL BE CONTROLLED BY REGULARLY SCHEDULED SWEEPING OF OFFSITE ACCESS ROADS AND MAINTENANCE OF ROCK CONSTRUCTION ENTRANCE.
- R. ALL EROSION AND SEDIMENT CONTROL PRACTICES MUST MEET THE STANDARDS AND SPECIFICATIONS OF THE OHIO RAINWATER AND LAND DEVELOPMENT HANDBOOK (2006).
- S. OTHER EROSION AND SEDIMENT CONTROL ITEMS MAY BE NECESSARY DUE TO ENVIRONMENTAL CONDITIONS.
- T. WINTERIZATION ANY DISTURBED AREA THAT IS NOT GOING TO BE WORKED FOR 14 DAYS OR MORE MUST BE SEEDED AND MULCHED BY NOVEMBER 1 OR MUST HAVE A DORMANT SEEDING OR MULCH COVER APPLIED BETWEEN NOVEMBER 1 AND MARCH 1.
- U. CONCRETE CEMENT IS TO BE TAKEN BACK TO PLANT FOR WASHOUT AND RECYCLING OR DESIGNATED AREAS ON SITE FOR CONCRETE WASHOUT ARE TO BE USED.

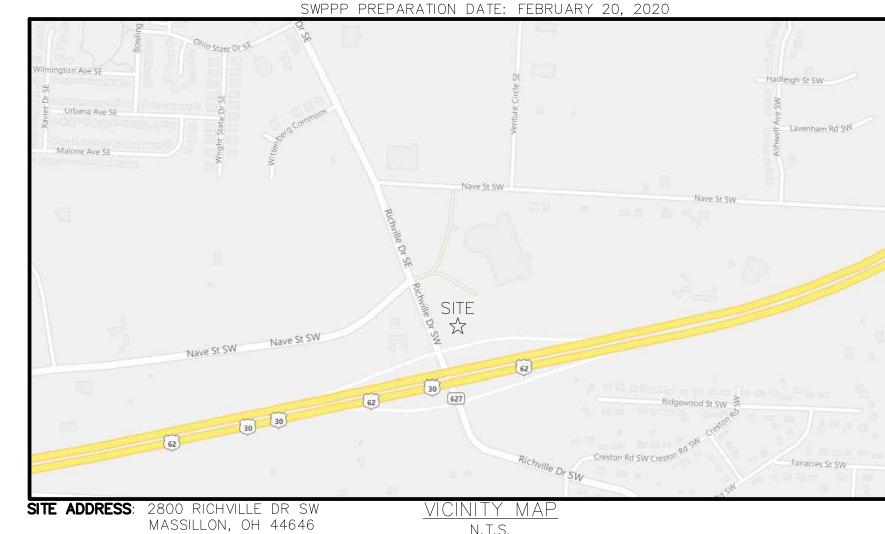
ADDITIONAL CONSTRUCTION SITE POLLUTION CONTROLS

- 1. CONSTRUCTION PERSONNEL, INCLUDING SUBCONTRACTORS WHO MAY USE OR HANDLE HAZARDOUS OR TOXIC MATERIALS, SHALL BE MADE AWARE OF THE FOLLOWING GENERAL GUIDELINES REGARDING DISPOSAL AND HANDLING OF HAZARDOUS AND CONSTRUCTION WASTES:
 - PREVENT SPILLS
 - •FOLLOW LABEL DIRECTIONS FOR DISPOSAL
 - •REMOVE LIDS FROM EMPTY BOTTLES AND CANS WHEN DISPOSING IN TRASH
 - RECYCLE WASTES WHENEVER POSSIBLE
 - DON'T POUR INTO WATERWAYS, STORM DRAINS OR ONTO THE GROUND
 - DON'T BURY CHEMICALS OR CONTAINERS
 - •DON'T POUR DOWN THE SINK, FLOOR DRAIN OR SEPTIC TANKS
 - DON'T BURN CHEMICALS OR CONTAINERS
 - DON'T MIX CHEMICALS TOGETHER
- 2. CONTAINERS SHALL BE PROVIDED FOR THE PROPER COLLECTION OF ALL WASTE MATERIAL INCLUDING CONSTRUCTION DEBRIS, TRASH, PETROLEUM PRODUCTS AND ANY HAZARDOUS MATERIALS USED ON—SITE. CONTAINERS SHALL BE COVERED AND NOT LEAKING. ALL WASTE MATERIAL SHALL BE DISPOSED OF AT FACILITIES APPROVED FOR THAT MATERIAL. CONSTRUCTION DEMOLITION AND DEBRIS (C&DD) WASTE MUST BE DISPOSED OF AT AN OHIO EPA APPROVED C&DD LANDFILL.
- 3. NO CONSTRUCTION RELATED WASTE MATERIALS ARE TO BE BURIED ON—SITE. BY EXCEPTION, CLEAN FILL (BRICKS, HARDENED CONCRETE, SOIL) MAY BE UTILIZED IN A WAY WHICH DOES NOT ENCROACH UPON NATURAL WETLANDS, STREAMS OR FLOODPLAINS OR RESULT IN THE CONTAMINATION OF WATERS OF THE STATE.
- 4. HANDLING CONSTRUCTION CHEMICALS. MIXING, PUMPING, TRANSFERRING OR OTHER HANDLING OF CONSTRUCTION CHEMICALS SUCH AS FERTILIZER, LIME, ASPHALT, CONCRETE DRYING COMPOUNDS, AND ALL OTHER POTENTIALLY HAZARDOUS MATERIALS SHALL BE PERFORMED IN AN AREA AWAY FROM ANY WATERCOURSE, DITCH OR STORM DRAIN.
- 5. EQUIPMENT FUELING AND MAINTENANCE, OIL CHANGING, ETC., SHALL BE PERFORMED AWAY FROM WATERCOURSES, DITCHES OR STORM DRAINS, IN AN AREA DESIGNATED FOR THAT PURPOSE. THE DESIGNATED AREA SHALL BE EQUIPPED FOR RECYCLING OIL AND CATCHING SPILLS. SECONDARY CONTAINMENT SHALL BE PROVIDED FOR ALL FUEL OIL STORAGE TANKS. THESE AREAS MUST BE INSPECTED EVERY SEVEN DAYS AND WITHIN 24 HRS. OF A 0.5 INCH OR GREATER RAIN EVENT TO ENSURE THERE ARE NO EXPOSED MATERIALS WHICH WOULD CONTAMINATE STORM WATER. SITE OPERATORS MUST BE AWARE THAT SPILL PREVENTION CONTROL AND COUNTERMEASURES (SPCC) REQUIREMENTS MAY APPLY. AN SPCC PLAN IS REQUIRED FOR SITES WITH ONE SINGLE ABOVE GROUND TANK OF 660 GALLONS OR MORE, ACCUMULATIVE ABOVE GROUND STORAGE OF 1330 GALLONS OR MORE, OR 42,000 GALLONS OF UNDERGROUND STORAGE. CONTAMINATED SOILS MUST BE DISPOSED OF IN ACCORDANCE WITH ITEM 8.
- 6. CONCRETE WASH WATER SHALL NOT BE ALLOWED TO FLOW TO STREAMS, DITCHES, STORM DRAINS, OR ANY OTHER WATER CONVEYANCE. A SUMP OR PIT WITH NO POTENTIAL FOR DISCHARGE SHALL BE CONSTRUCTED IF NEEDED TO CONTAIN CONCRETE WASH WATER. FIELD TILE OR OTHER SUBSURFACE DRAINAGE STRUCTURES WITHIN 10 FT. OF THE SUMP SHALL BE CUT AND PLUGGED. FOR SMALL PROJECTS, TRUCK CHUTES MAY BE RINSED AWAY FROM ANY WATER CONVEYANCES.
- 7. SPILL REPORTING REQUIREMENTS: SPILLS ON PAVEMENT SHALL BE ABSORBED WITH SAWDUST OR KITTY LITTER AND DISPOSED OF WITH THE TRASH AT A LICENSED SANITARY LANDFILL. HAZARDOUS OR INDUSTRIAL WASTES SUCH AS MOST SOLVENTS, GASOLINE, OIL-BASED PAINTS, AND CEMENT CURING COMPOUNDS REQUIRE SPECIAL HANDLING. SPILLS SHALL BE REPORTED TO OHIO EPA (1-800-282-9378). SPILLS OF 25 GALLONS OR MORE OF PETROLEUM PRODUCTS SHALL BE REPORTED TO OHIO EPA, THE LOCAL FIRE DEPARTMENT, AND THE LOCAL EMERGENCY PLANNING COMMITTEE WITHIN 30 MIN. OF THE DISCOVERY OF THE RELEASE. ALL SPILLS WHICH CONTACT WATERS OF THE STATE MUST BE REPORTED TO OHIO EPA.
- 8. CONTAMINATED SOILS. IF SUBSTANCES SUCH AS OIL, DIESEL FUEL, HYDRAULIC FLUID, ANTIFREEZE, ETC. ARE SPILLED, LEAKED, OR RELEASED ONTO THE SOIL, THE SOIL SHOULD BE DUG UP AND DISPOSED OF AT LICENSED SANITARY LANDFILL OR OTHER APPROVED PETROLEUM CONTAMINATED SOIL REMEDIATION FACILITY. (NOT A CONSTRUCTION/DEMOLITION DEBRIS LANDFILL). NOTE THAT STORM WATER RUN OFF ASSOCIATED WITH CONTAMINATED SOILS ARE NOT AUTHORIZED UNDER OHIO EPA'S GENERAL STORM WATER PERMIT ASSOCIATED WITH CONSTRUCTION ACTIVITIES.
- 9. OPEN BURNING. NO MATERIALS CONTAINING RUBBER, GREASE, ASPHALT, OR PETROLEUM PRODUCTS, SUCH AS TIRES, AUTOPARTS, PLASTICS OR PLASTIC COATED WIRE MAY BE BURNED (OAC 3745-19). OPEN BURNING IS NOT ALLOWED IN RESTRICTED AREAS, WHICH ARE DEFINED AS: 1) WITHIN CORPORATION LIMITS; 2) WITHIN 1000 FEET OUTSIDE A MUNICIPAL CORPORATION HAVING A POPULATION OF 1000 TO 10,000; AND 3) A ONE MILE ZONE OUTSIDE OF A CORPORATION OF 10,000 OR MORE. OUTSIDE OF RESTRICTED AREAS, NO OPEN BURNING IS ALLOWED WITHIN A 1000 FEET OF AN INHABITED BUILDING ON ANOTHER PROPERTY. OPEN BURNING IS PERMISSIBLE IN A RESTRICTED AREA FOR: HEATING TAR, WELDING, SMUDGE POTS AND SIMILAR OCCUPATIONAL NEEDS, AND HEATING FOR WARMTH OR OUTDOOR BARBEQUES. OUTSIDE OF RESTRICTED AREAS, OPEN BURNING IS PERMISSIBLE FOR LANDSCAPE OR LAND-CLEARING WASTES (PLANT MATERIAL, WITH PRIOR WRITTEN PERMISSION FROM OHIO EPA), AND AGRICULTURAL WASTES, EXCLUDING BUILDINGS.
- 10. DUST CONTROL OR DUST SUPPRESSANTS SHALL BE USED TO PREVENT NUISANCE CONDITIONS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND IN A MANNER WHICH WILL PREVENT A DISCHARGE TO WATERS OF THE STATE. SUFFICIENT DISTANCE MUST BE PROVIDED BETWEEN APPLICATIONS AND NEARBY BRIDGES, CATCH BASINS, AND OTHER WATERWAYS. APPLICATION (EXCLUDING WATER) MAY NOT OCCUR WHEN RAIN IS IMMINENT AS NOTED IN THE SHORT TERM FORECAST. USED OIL MAY NOT BE APPLIED FOR DUST CONTROL.
- 11. OTHER AIR PERMITTING REQUIREMENTS: CERTAIN ACTIVITIES ASSOCIATED WITH CONSTRUCTION WILL REQUIRE AIR PERMITS INCLUDING BUT NOT LIMITED TO: MOBILE CONCRETE BATCH PLANTS, MOBILE ASPHALT PLANTS, CONCRETE CRUSHERS, LARGE GENERATORS, ETC. THESE ACTIVITIES WILL REQUIRE SPECIFIC OHIO EPA AIR PERMITS FOR INSTALLATION AND OPERATION. OPERATORS MUST SEEK AUTHORIZATION FROM THE CORRESPONDING DISTRICT OF OHIO EPA. FOR DEMOLITION OF ALL COMMERCIAL SITES, A NOTIFICATION FOR RESTORATION AND DEMOLITION MUST BE SUBMITTED TO OHIO EPA TO DETERMINE IF ASBESTOS CORRECTIVE ACTIONS ARE REQUIRED.
- 12. PROCESS WASTE WATER/LEACHATE MANAGEMENT. OHIO EPA'S CONSTRUCTION GENERAL PERMIT ONLY ALLOWS THE DISCHARGE OF STORM WATER AND DOES NOT INCLUDE OTHER WASTE STREAMS/DISCHARGES SUCH AS VEHICLE AND/OR EQUIPMENT WASHING, ON-SITE SEPTIC LEACHATE CONCRETE WASH OUTS, WHICH ARE CONSIDERED PROCESS WASTEWATERS. ALL PROCESS WASTEWATERS MUST BE COLLECTED AND PROPERLY DISPOSED AT AN APPROVED DISPOSAL FACILITY. IN THE EVENT, LEACHATE OR SEPTAGE IS DISCHARGED; IT MUST BE ISOLATED FOR COLLECTION AND PROPER DISPOSAL AND CORRECTIVE ACTIONS TAKEN TO ELIMINATE THE SOURCE OF WASTE WATER.
- 13. A PERMIT TO INSTALL (PTI) IS REQUIRED PRIOR TO THE CONSTRUCTION OF ALL CENTRALIZED SANITARY SYSTEMS, INCLUDING SEWER EXTENSIONS, AND SEWERAGE SYSTEMS (EXCEPT THOSE SERVING ONE, TWO, AND THREE FAMILY DWELLINGS) AND POTABLE WATER LINES. PLANS MUST BE SUBMITTED AND APPROVED BY OHIO EPA. ISSUANCE OF AN OHIO EPA CONSTRUCTION GENERAL STORM WATER PERMIT DOES NOT AUTHORIZE THE INSTALLATION OF ANY SEWERAGE SYSTEM WHERE OHIO EPA HAS NOT APPROVED A PTI.

I, THE UNDERSIGNED, CERTIFY THAT I UNDERSTAND AND WILL ADHERE TO THE REQUIREMENTS, TERMS, AND CONDITIONS OF THE STORM WATER POLLUTION PREVENTION PLAN REVIEWED AND APPROVED BY THE STARK SOIL AND WATER CONSERVATION DISTRICT FOR COMPLIANCE WITH THE STARK COUNTY WATER QUALITY REGULATIONS FOR THE ABOVE REFERENCED PROJECT.

OWNER-

STORMWATER POLLUTION PREVENTION PLAN



CONSTRUCTION SEQUENCE

- 1. CONDUCT PRE-CONSTRUCTION MEETING WITH STARK SWCD.
- 2. INSTALL SILT FENCE AS SHOWN ON PLANS.
- 3. CLEAR TREES, BRUSH AND STUMPS AS NECESSARY.
- 4. ALL PERIMETER BARRIERS TO BE CONSTRUCTED WITHIN 7 DAYS OF FIRST GRUBBING.
- 5. BASIN MUST BE INSTALLED PRIOR TO UP-SLOPE DISTURBANCE.
- 6. INSTALL TEMPORARY SEEDING TO ALL STRUCTURAL EROSION INSTALLATIONS PRIOR TO MASS GRADING OF SITE.
- 7. STRIP/STOCKPILE TOPSOIL. STOCKPILES THAT ARE INACTIVE FOR 14 DAYS OR LONGER SHALL BE SEEDED/STABILIZED WITHIN 7 DAYS OF LAST ACTIVITY.
- 8. MASS GRADING
- 9. INSTALL UNDERGROUND UTILITIES.
- 10. INSTALL INLET PROTECTION.
- 11. BRING PAVEMENT AREAS TO SUB GRADE.
- 12. INSTALL PAVEMENT. AFTER INSTALLATION OF PAVEMENT REPLACE INLET PROTECTION.
- 13. FINISH GRADE, SEED AND MULCH ALL DISTRIBUTED AREAS AND MAINTAIN TEMPORARY EROSION CONTROLS AS REQUIRED.
- 14. UPON COMPLETION AND SITE STABILIZATION, REMOVE ACCUMULATED SEDIMENT AND DEBRIS FROM STORM SYSTEM AND REMOVE SOIL AND EROSION CONTROLS, EXCEPT FOR SILT FENCING. SILT FENCE TO BE REMOVED AFTER 80% OF SITE HAS BEEN STABILIZED.

ADDITIONAL PROVISIONS:

- 1. INSTALLATION OF SILT FENCING SHALL NOT OCCUR PRIOR TO THE INITIAL PRE-CONSTRUCTION MEETING.
- 2. CONTINUOUSLY SWEEP DRIVES AND STREET AND MAINTAIN CONSTRUCTION ENTRANCE.
- 3. ALL AREAS AT FINAL GRADE OR WHERE CONSTRUCTION ACTIVITY HAS CEASED FOR 14 DAYS OR LONGER SHALL BE STABILIZED WITHIN 7 DAYS OF LAST ACTIVITY.

SITE INFO:

<u>SITE DESCRIPTION—</u> EXISTING— TECHNICAL CAREER CENTER PROPOSED— ADDITIONAL PARKING AND WATER QUALITY BASIN

BMPs— THIS SITE WILL UTILIZE A WATER QUALITY BASIN THAT WILL PREVENT SEDIMENT, DEBRIS AND OTHER POLLUTANTS FROM DISCHARGING FROM THE SITE BY DETAINING THE STORM WATER AND ALLOWING POLLUTANTS TO SETTLE OUT OF THE WATER BEFORE IT IS RELEASED TO THE NEARBY ROADSIDE DITCH.

TOTAL AREA OF SITE - 34± AC.

AREA OF SITE TO UNDER GO EXCAVATION

BASE BID: 2.94 AC.

ALTERNATE NO. 1: 0.58 AC.

ALTERNATE NO. 2: 0.77 AC.

PRE-CONSTRUCTION CURVE NUMBER - 86.4

POST-CONSTRUCTION CURVE NUMBER - 87.0

SCHEDULE OF MAJOR CONSTRUCTION

COMMENCEMENT - SUMMER 2020

COMPLETION - SUMMER 2020

RECEIVING STREAM & SURFACE WATER
ONSITE DRAINAGE FLOWS TO UNNAMED TRIBUTARIES TO
TUSCARAWAS RIVER.

SOILS

CdB- CANFIELD SILT LOAM, 2 TO 6 PERCENT SLOPES

CdC- CANFIELD SILT LOAM, 6 TO 12 PERCENT SLOPES

CdC2- CANFIELD SILT LOAM, 6 TO 12 PERCENT SLOPES,

ERODED

FITCHVILLE SILT LOAM, 0 TO 2 PERCENT SLOPES
RAVENNA SILT LOAM, 2 TO 6 PERCENT SLOPES

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OWNER/DEVELOPER

STARK COUNTY AREA JOINT VOCATIONAL SCHOOL DISTRICT 2800 RICHVILLE DR SW

MASSILLON, OH 44646

ENGINEER / SURVEYOR

HAMMONTREE & ASSOCIATES, LIMITED 5233 STONEHAM ROAD NORTH CANTON, OHIO 44720

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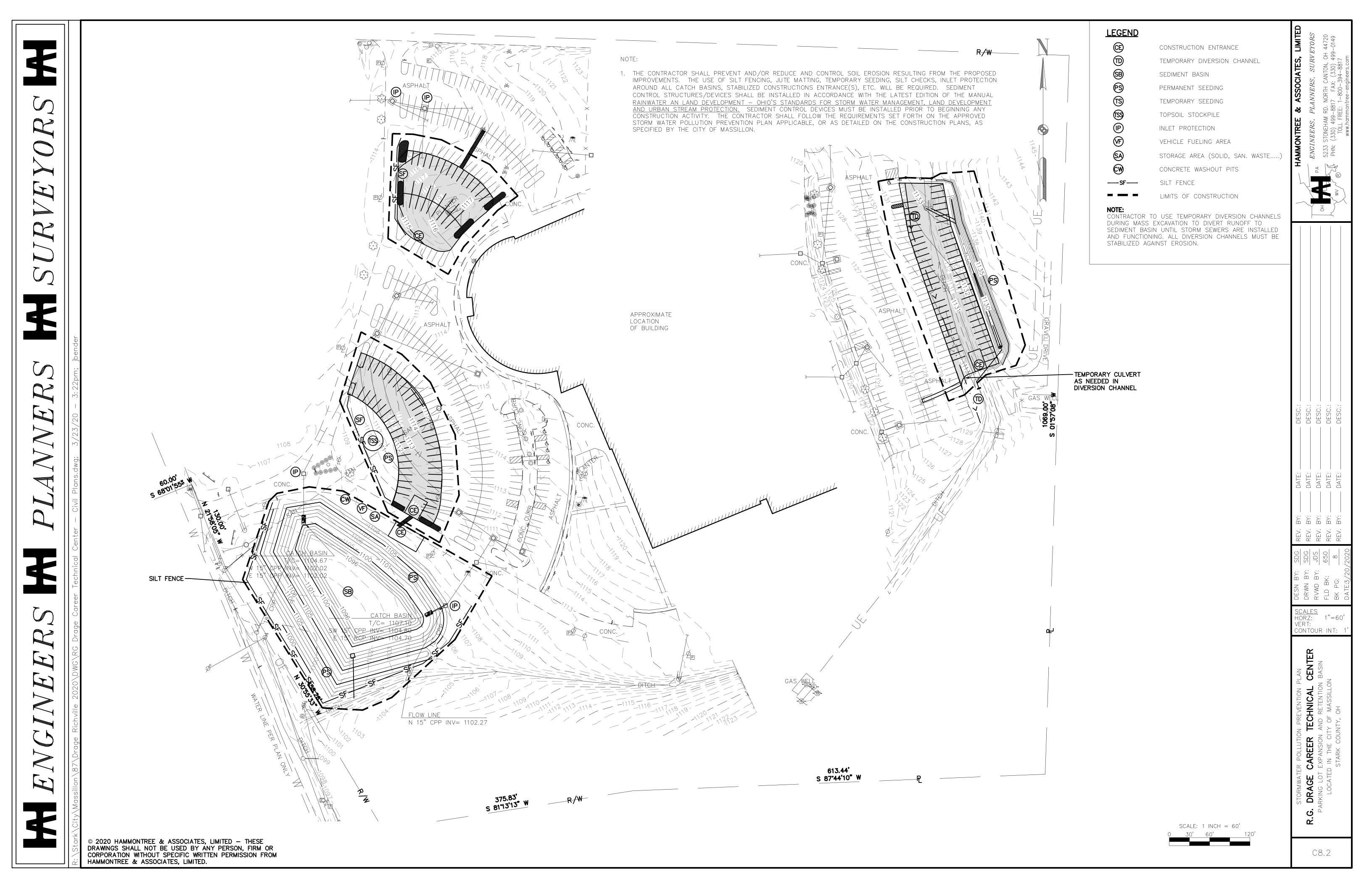
STORMWATER POLLUTION PREVENTION

DRAGE CAREER TECHNICAL

ARKING LOT EXPANSION AND RETENTION
ED ON OUT LOT #1089, IN THE CITY (

STO STO PARKI

CONTOUR INT:



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CONSTRUCTION ENTRANCE

1. STONE SIZE: ODOT # 2 (1.5—2.5 INCH) STONE SHALL BE USED, OR RECYCLED CONCRETE EQUIVALENT.

- 2. THE CONSTRUCTION ENTRANCE SHALL BE AS LONG AS REQUIRED TO STABILIZE HIGH TRAFFIC AREAS BUT NOT LESS THAN 70 FT. (EXCEPTION: APPLY 30 FT. MINIMUM TO SINGLE RESIDUAL LOTS).
- 3. THICKNESS: THE STONE LAYER SHALL BE AT LEAST 18 INCHES THICK FOR LIGHT OR HEAVY DUTY USE.
- 4. THE ENTRANCE SHALL BE AT LEAST 20 FEET WIDE, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS.
- 5. GEOTEXTILE: A GEOTEXTILE SHALL BE LAID OVER THE ENTIRE AREA PRIOR TO PLACING STONE. IT SHALL BE COMPOSED OF STRONG ROT-PROOF POLYMERIC FIBERS AND MEET THE FOLLOWING SPECIFICATIONS:

GEOTEXTILE SPECIFICATION FOR CONSTRUCTION ENTRANCE

MINIMUM TENSILE STRENGTH	200 LBS.	MINIMUM PUNCTURE STRENGTH	80 PSI.
MINIMUM TEAR STRENGTH	50 LBS.	MINIMUM BURST STRENGTH	320 PSI.
MINIMUM ELONGATION	20%	EQUIVALENT OPENING SIZE	EOS < 0.6 MM.
PERMITIVITY	1X10-3 CM/SEC.		

- 6. TIMING: THE CONSTRUCTION ENTRANCE SHALL BE INSTALLED AS SOON AS IS PRACTICABLE BEFORE MAJOR GRADING ACTIVITIES.
- 7. CULVERT: A PIPE OR CULVERT SHALL BE CONSTRUCTED UNDER THE ENTRANCE IF NEEDED TO PREVENT SURFACE WATER FROM FLOWING ACROSS THE ENTRANCE OR TO PREVENT RUNOFF FROM BEING DIRECTED OUT ONTO PAVED SURFACES.
- 8. WATER BAR: A WATER BAR SHALL BE CONSTRUCTED AS PART OF THE CONSTRUCTION ENTRANCE IF NEEDED TO PREVENT SURFACE RUNOFF FROM FLOWING THE LENGTH OF THE CONSTRUCTION ENTRANCE AND OUT ONTO PAVED SURFACES.
- 9. MAINTENANCE: TOP DRESSING OF ADDITIONAL STONE SHALL BE APPLIED AS CONDITIONS DEMAND. MUD SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC ROADS, OR ANY SURFACE WHERE RUNOFF IS NOT CHECKED BY SEDIMENT CONTROLS, SHALL BE REMOVED IMMEDIATELY. REMOVAL SHALL BE ACCOMPLISHED BY SCRAPING OR SWEEPING.
- 10. CONSTRUCTION ENTRANCES SHALL NOT BE RELIED UPON TO REMOVE MUD FROM VEHICLES AND PREVENT OFF-SITE TRACKING. VEHICLES THAT ENTER AND LEAVE THE CONSTRUCTION—SITE SHALL BE RESTRICTED FROM MUDDY AREAS.
- 11. REMOVAL:THE ENTRANCE SHALL REMAIN IN PLACE UNTIL THE DISTURBED AREA IS STABILIZED OR REPLACED WITH A PERMANENT ENTRANCE.

70 FT. (OR 30 FT FOR ACCESS TO INDIV. HOUSE LOT) -14 FT MIN AND NOT LESS THAN WIDTH OF INGRESS OR EGRESS RIGHT OF WAY DIVERSION AS NEEDED ROAD OR OTHER-PAVED SURFACE 18" OR SUFFICIENT-TO DIVERT RUNOFF CULVERT AS NEEDED

TEMPORARY DIVERSION

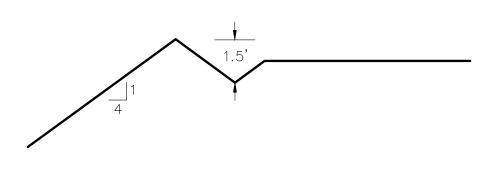
- 1. DRAINAGE AREA SHOULD NOT EXCEED 10 ACRES. LARGER AREAS REQUIRE A MORE EXTENSIVE DESIGN.
- 2. THE CHANNEL CROSS SECTION MAY BE PARABOLIC OR TRAPEZOIDAL. DISK THE BASE OF THE DIKE BEFORE PLACING FILL. BUILD THE DIKE 10% HIGHER THAN DESIGNED FOR SETTLEMENT. THE DIKE SHALL BE COMPACTED BY TRAVERSING WITH TRACKED EARTH-MOVING EQUIPMENT.
- 3. THE MINIMUM CROSS SECTION OF THE LEVEE OR DIKE WILL BE AS FOLLOWS: (MINIMUM DESIGN FREEBOARD SHALL BE 0.3 FOOT.) WHERE CONSTRUCTION TRAFFIC WILL CROSS, THE TOP WIDTH MAY BE MADE WIDER AND THE SIDE SLOPES FLATTER THAN SPECIFIED ABOVE.

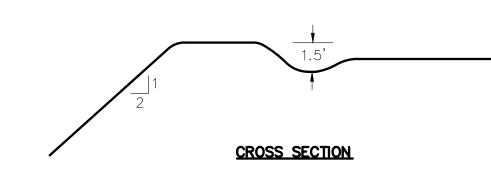
DIKE TOP WIDTH (FT.)	HEIGHT (FT.)	SIDE SLOPES	SHAPE
0	1.5	4.1	TRAPEZOIDAL
4	1.5	2.1	PARABOLIC

- 4. THE GRADE MAY BE VARIABLE DEPENDING UPON THE TOPOGRAPHY, BUT MUST HAVE A POSITIVE DRAINAGE TO THE OUTLET AND BE STABILIZED TO BE NON-EROSIVE.
- 5. OUTLET RUNOFF ONTO A STABILIZED AREA, INTO A PROPERLY DESIGNED WATERWAY, GRADE STABILIZATION STRUCTURE, OR SEDIMENT TRAPPING FACILITY.
- 6. DIVERSIONS SHALL BE SEEDED AND MULCHED IN ACCORDANCE WITH THE REQUIREMENTS IN PRACTICE STANDARDS TEMPORARY SEEDING (OR PERMANENT SEEDING) AND MULCHING AS SOON AS THEY ARE CONSTRUCTED OR OTHER SUITABLE STABILIZATION IN ORDER TO PRESERVE DIKE HEIGHT AND REDUCE MAINTENANCE.

TEMPORARY DIVERSION STABILIZATION TREATMENT

SLOPE	< 2 AC.	2 - 5 AC.	5 — 10 AC.
0 - 3%	SEED & STRAW	SEED & STRAW	SEED & STRAW
3 - 5%	SEED & STRAW	SEED & STRAW	MATTING
5 - 8%	SEED & STRAW	MATTING	MATTING
8 - 20%	SEED & STRAW	MATTING	ENGINEERED





NOTE: DIVERSIONS WITH STEEPER SLOPES OR GREATER DRAINAGE AREAS ARE BEYOND THE SCOPE OF THIS STANDARD AND MUST BE DESIGNED FOR STABILITY. SEED, STRAW AND MATTING USED SHALL MEET THE SPECIFICATIONS FOR TEMPORARY SEEDING, MULCHING AND MATTING.

SILT FENCE

- 1. SILT FENCE SHALL BE CONSTRUCTED BEFORE UPSLOPE LAND DISTURBANCE BEGINS.
- 2. ALL SILT FENCE SHALL BE PLACED AS CLOSE TO THE CONTOUR AS POSSIBLE SO THAT WATER WILL NOT CONCENTRATE AT LOW POINTS IN THE FENCE AND SO THAT SMALL SWALES OR DEPRESSIONS THAT MAY CARRY SMALL CONCENTRATED FLOWS TO THE SILT FENCE ARE DISSIPATED ALONG ITS LENGTH.
- 3. ENDS OF THE SILT FENCES SHALL BE BROUGHT UPSLOPE SLIGHTLY SO THAT WATER PONDED BY THE SILT FENCE WILL BE PREVENTED FROM FLOWING AROUND THE ENDS.
- 4. SILT FENCE SHALL BE PLACED ON THE FLATTEST AREA AVAILABLE.
- 5. WHERE POSSIBLE, VEGETATION SHALL BE PRESERVED FOR 5 FEET (OR AS MUCH AS POSSIBLE) UPSLOPE FROM THE SILT FENCE. IF VEGETATION IS REMOVED, IT SHALL BE REESTABLISHED WITHIN 7 DAYS FROM THE INSTALLATION OF THE SILT FENCE.
- 6. THE HEIGHT OF THE SILT FENCE SHALL BE A MINIMUM OF 16 INCHES ABOVE THE ORIGINAL GROUND SURFACE.
- 7. THE SILT FENCE SHALL BE PLACED IN AN EXCAVATED OR SLICED TRENCH CUT A MINIMUM OF 6 INCHES DEEP. THE TRENCH SHALL BE MADE WITH A TRENCHER, CABLE LAYING MACHINE, SLICING MACHINE, OR OTHER SUITABLE DEVICE THAT WILL ENSURE AN ADEQUATELY UNIFORM TRENCH DEPTH.
- 8. THE SILT FENCE SHALL BE PLACED WITH THE STAKES ON THE DOWNSLOPE SIDE OF THE GEOTEXTILE. A MINIMUM OF 8 INCHES OF GEOTEXTILE MUST BE BELOW THE GROUND SURFACE. EXCESS MATERIAL SHALL LAY ON THE BOTTOM OF THE 6-INCH DEEP TRENCH. THE TRENCH SHALL BE BACKFILLED AND COMPACTED ON BOTH SIDES OF THE
- 9. SEAMS BETWEEN SECTIONS OF SILT FENCE SHALL BE SPLICED TOGETHER ONLY AT A SUPPORT POST WITH A MINIMUM 6-IN. OVERLAP PRIOR TO DRIVING INTO THE GROUND, (SEE DETAILS).
- 10. MAINTENANCE--SILT FENCE SHALL ALLOW RUNOFF TO PASS ONLY AS DIFFUSE FLOW THROUGH THE GEOTEXTILE. IF RUNOFF OVER\FS20 TOPS THE SILT FENCE, FLOWS UNDER THE FABRIC OR AROUND THE FENCE ENDS, OR IN ANY OTHER WAY ALLOWS A CONCENTRATED FLOW DISCHARGE, ONE OF THE FOLLOWING SHALL BE PERFORMED, AS APPROPRIATE: 1) THE LAYOUT OF THE SILT FENCE SHALL BE CHANGED, 2) ACCUMULATED SEDIMENT SHALL BE REMOVED, OR 3) OTHER PRACTICES SHALL BE INSTALLED.

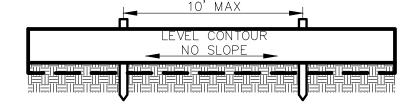
SEDIMENT DEPOSITS SHALL BE ROUTINELY REMOVED WHEN THE DEPOSIT REACHES APPROXIMATELY ONE-HALF OF THE HEIGHT OF THE SILT FENCE.

SILT FENCES SHALL BE INSPECTED AFTER EACH RAINFALL AND AT LEAST DAILY DURING A PROLONGED RAINFALL. THE LOCATION OF EXISTING SILT FENCE SHALL BE REVIEWED DAILY TO ENSURE ITS PROPER LOCATION AND EFFECTIVENESS. IF DAMAGED, THE SILT FENCE SHALL BE REPAIRED IMMEDIATELY.

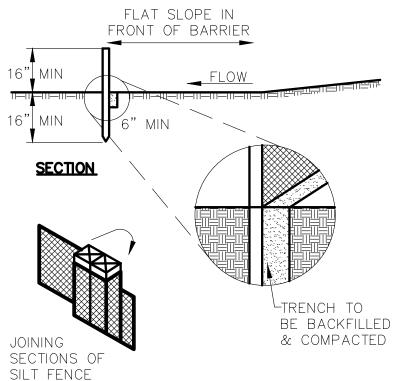
CRITERIA FOR SILT FENCE MATERIALS

- 1. FENCE POST THE LENGTH SHALL BE A MINIMUM OF 32 INCHES. WOOD POSTS WILL BE 2-BY-2-IN. NOMINAL DIMENSIONED HARDWOOD OF SOUND QUALITY. THEY SHALL BE FREE OF KNOTS, SPLITS AND OTHER VISIBLE IMPERFECTIONS, THAT WILL WEAKEN THE POSTS. THE MAXIMUM SPACING BETWEEN POSTS SHALL BE 10 FT. POSTS SHALL BE DRIVEN A MINIMUM 16 INCHES INTO THE GROUND, WHERE POSSIBLE. IF NOT POSSIBLE, THE POSTS SHALL BE ADEQUATELY SECURED TO PREVENT OVERTURNING OF THE FENCE DUE TO SEDIMENT/WATER LOADING.
- 2. SILT FENCE FABRIC SEE CHART BELOW.

FABRIC PROPERTIES	VALUES	TEST METHOD
MIN TENSILE STRENGTH	120 LBS	ASTM D 4632
MAX. ELONGATION AT 60 LBS	50%	ASTM D 4632
MIN. PUNCTURE STRENGTH	50 LBS	ASTM D 4833
MIN. TEAR STRENGTH	40 LBS	ASTM D 4533
APPARENT OPENING SIZE	0.84 MM	ASTM D 4751
UV EXPOSURE STRENGTH	70%	ASTM G 4355
MIN. PERMITIVITY	1X10-2SEC1	ASTM D 4491

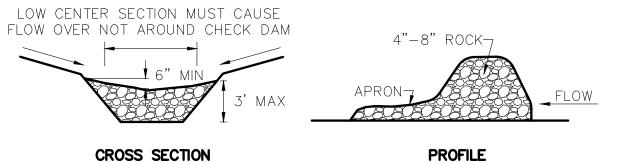


ELEVATION



WRAP GEOTEXTILE AROUND STAKES BEFORE DRIVING

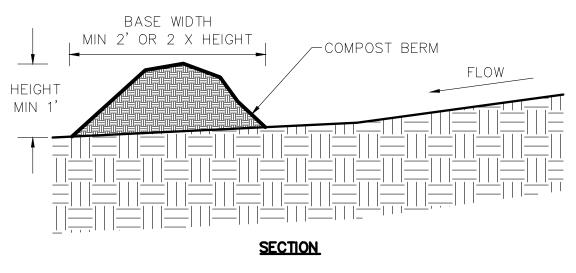
ROCK CHECK DAM



1. THE CHECK DAM SHALL BE CONSTRUCTED OF 4-8 INCH DIAMETER STONE, PLACED SO THAT IT COMPLETELY COVERS THE WIDTH OF THE CHANNEL. ODOT TYPE D STONE IS ACCEPTABLE, BUT SHOULD BE UNDERLAIN WITH A GRAVEL FILTER CONSISTING OF ODOT NO. 3 OR 4 OR SUITABLE FILTER FABRIC.

- 2. MAXIMUM HEIGHT OF CHECK DAM SHALL NOT EXCEED 3.0 FEET.
- 3. THE MIDPOINT OF THE ROCK CHECK DAM SHALL BE A MINIMUM OF 6 INCHES LOWER THAN THE SIDES IN ORDER TO DIRECT ACROSS THE CENTER AND AWAY FROM THE CHANNEL SIDES.
- 4. THE BASE OF THE CHECK DAM SHALL BE ENTRENCHED APPROXIMATELY 6 INCHES.
- 5. SPACING OF CHECK DAMS SHALL BE IN A MANNER SUCH THAT THE TOE OF THE UPSTREAM DAM IS AT THE SAME ELEVATION AS THE TOP OF THE DOWNSTREAM DAM.
- 6. A SPLASH APRON SHALL BE CONSTRUCTED WHERE CHECK DAMS ARE EXPECTED TO BE IN USE FOR AN EXTENDED PERIOD OF TIME, A STONE APRON SHALL BE CONSTRUCTED IMMEDIATELY DOWNSTREAM OF THE CHECK DAM TO PREVENT FLOWS FROM UNDERCUTTING THE STRUCTURE. THE APRON SHOULD BE 6 IN. THICK AND ITS LENGTH TWO TIMES THE HEIGHT OF THE DAM.
- 7. STONE PLACEMENT SHALL BE PERFORMED EITHER BY HAND OR MECHANICALLY AS LONG AS THE CENTER OF CHECK DAM IS LOWER THAN THE SIDES AND EXTENDS ACROSS ENTIRE CHANNEL.
- 8. SIDE SLOPES SHALL BE A MINIMUM OF 2:1.

FILTER BERM



- 1. MATERIALS:COMPOST USED FOR FILTER BERMS SHALL BE WEED, PATHOGEN AND INSECT FREE AND FREE OF ANY REFUSE, CONTAMINANTS OR OTHER MATERIALS TOXIC TO PLANT GROWTH. THEY SHALL BE DERIVED FROM A WELL-DECOMPOSED SOURCE OF ORGANIC MATTER AND CONSIST OF A PARTICLES RANGING FROM 1/4" TO 3".
- 2. INSTALLATION: FILTER BERMS WILL BE PLACED ON A LEVEL LINE ACROSS SLOPES, GENERALLY PARALLEL TO THE BASE OF THE SLOPE OR OTHER AFFECTED AREA. ON SLOPES APPROACHING 2:1, ADDITIONAL BERMS SHALL BE PROVIDED AT THE TOP AND AS NEEDED MID-SLOPE.

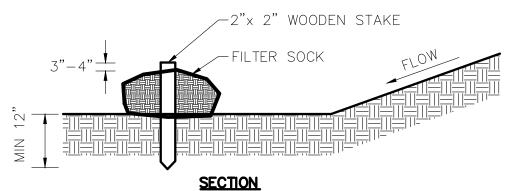
FILTER BERMS ARE NOT TO BE USED IN CONCENTRATED FLOW SITUATIONS OR IN RUNOFF CHANNELS.

- 3. MAINTENANCE: INSPECT FILTER BERMS AFTER EACH SIGNIFICANT RAIN, MAINTAINING THE BERMS IN A FUNCTIONAL CONDITION AT ALL TIMES. REMOVE SEDIMENTS COLLECTED AT THE BASE OF THE FILTER BERMS WHEN THEY REACH 1/3 OF THE EXPOSED HEIGHT OF THE PRACTICE. WHERE THE FILTER BERM DETERIORATES OR FAILS IT WILL BE, IT WILL BE REPAIRED OR REPLACED WITH A MORE EFFECTIVE ALTERNATIVE.
- 4. REMOVAL: FILTER BERMS NO LONGER NEEDED WILL BE DISPERSED ON SITE IN A MANNER THAT WILL FACILITATE SEEDING.

FILTER SOCK

1. MATERIALS: COMPOST USED FOR FILTER SOCKS SHALL BE WEED, PATHOGEN AND INSECT FREE AND FREE OF ANY REFUSE, CONTAMINANTS OR OTHER MATERIALS TOXIC TO PLANT GROWTH. THEY SHALL BE DERIVED FROM A WELL-DECOMPOSED SOURCE OF ORGANIC MATTER AND CONSIST OF A PARTICLES RANGING FROM 3/8" TO 2".

2. FILTER SOCKS SHALL BE 3 OR 5 MIL CONTINUOUS, TUBULAR, HDPE 3/8" KNITTED MESH NETTING MATERIAL, FILLED WITH COMPOST PASSING THE ABOVE SPECIFICATIONS FOR COMPOST PRODUCTS.



- 3. FILTER SOCKS WILL BE PLACED ON A LEVEL LINE ACROSS SLOPES, GENERALLY PARALLEL TO THE BASE OF THE SLOPE OR OTHER AFFECTED AREA. ON SLOPES APPROACHING 2:1, ADDITIONAL SOCKS SHALL BE PROVIDED AT THE TOP AND AS NEEDED MID-SLOPE.
- 4. FILTER SOCKS INTENDED TO BE LEFT AS A PERMANENT FILTER OR PART OF THE NATURAL LANDSCAPE, SHALL BE SEEDED AT THE TIME OF INSTALLATION FOR ESTABLISHMENT OF PERMANENT VEGETATION.
- 5. FILTER SOCKS ARE NOT TO BE USED IN CONCENTRATED FLOW SITUATIONS OR IN RUNOFF CHANNELS.
- 6. ROUTINELY INSPECT FILTER SOCKS AFTER EACH SIGNIFICANT RAIN, MAINTAINING FILTER SOCKS IN A FUNCTIONAL CONDITION AT ALL TIMES.
- 7. REMOVE SEDIMENTS COLLECTED AT THE BASE OF THE FILTER SOCKS WHEN THEY REACH 1/3 OF THE EXPOSED HEIGHT OF THE PRACTICE.
- 8. WHERE THE FILTER SOCK DETERIORATES OR FAILS, IT WILL BE REPAIRED OR REPLACED WITH A MORE EFFECTIVE ALTERNATIVE.
- 9. REMOVAL: FILTER SOCKS WILL BE DISPERSED ON SITE WHEN NO LONGER REQUIRED IN SUCH AS WAY AS TO FACILITATE AND NOT OBSTRUCT SEEDINGS.

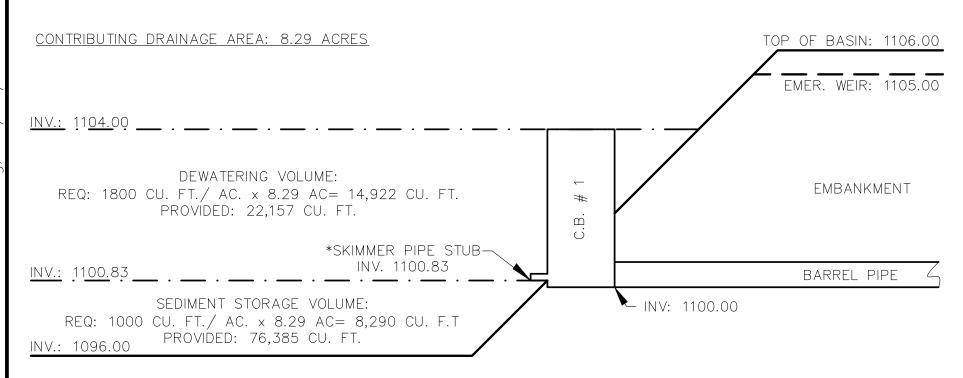
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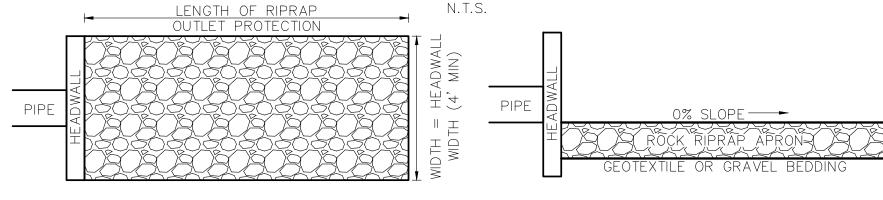
SEDIMENT BASIN

- 1. SEDIMENT BASINS SHALL BE CONSTRUCTED AND OPERATIONAL BEFORE UPSLOPE LAND DISTURBANCE BEGINS.
- 2. SITE PREPARATION: THE AREA UNDER THE EMBANKMENT SHALL BE CLEARED, GRUBBED, AND STRIPPED OF ANY VEGETATION AND ROOT MAT. THE POOL AREA SHALL BE CLEARED AS NEEDED TO FACILITATE SEDIMENT CLEANOUT. GULLIES AND SHARP BREAKS SHALL BE SLOPED TO NO STEEPER THAN 1:1. THE SURFACE OF THE FOUNDATION AREA WILL BE THOROUGHLY SCARIFIED BEFORE PLACEMENT OF THE EMBANKMENT MATERIAL
- 3. CUT-OFF TRENCH: THE CUTOFF TRENCH SHALL BE EXCAVATED ALONG THE CENTERLINE OF THE EMBANKMENT. THE MINIMUM DEPTH SHALL BE 3 FT. UNLESS SPECIFIED DEEPER ON THE PLANS OR AS A RESULT OF SITE CONDITIONS. THE MINIMUM BOTTOM WIDTH SHALL BE 4 FT., BUT WIDE ENOUGH TO PERMIT OPERATION OF COMPACTION EQUIPMENT. THE TRENCH SHALL BE KEPT FREE OF STANDING WATER DURING BACKFILL OPERATIONS.
- 4. EMBANKMENT: THE FILL MATERIAL SHALL BE FREE OF ALL SOD, ROOTS, FROZEN SOIL, STONES OVER 6 IN. IN DIAMETER, AND OTHER OBJECTIONABLE MATERIAL. THE PLACING AND SPREADING OF THE FILL MATERIAL SHALL BE STARTED AT THE LOWEST POINT OF THE FOUNDATION AND THE FILL SHALL BE BROUGHT UP IN APPROXIMATELY 6 IN. HORIZONTAL LAYERS OR OF SUCH THICKNESS THAT THE REQUIRED COMPACTION CAN BE OBTAINED WITH THE EQUIPMENT USED. CONSTRUCTION EQUIPMENT SHALL BE OPERATED OVER EACH LAYER IN A WAY THAT WILL RESULT IN THE REQUIRED COMPACTION. SPECIAL EQUIPMENT SHALL BE USED WHEN THE REQUIRED COMPACTION CANNOT BE OBTAINED WITHOUT IT. THE MOISTURE CONTENT OF FILL MATERIAL SHALL BE SUCH THAT THE REQUIRED DEGREE OF COMPACTION CAN BE OBTAINED WITH THE EQUIPMENT USED.
- 5. PIPE SPILLWAY: THE PIPE CONDUIT BARREL SHALL BE PLACED ON A FIRM FOUNDATION TO THE LINES AND GRADES SHOWN ON THE PLANS. CONNECTIONS BETWEEN THE RISER AND BARREL, THE ANTI-SEEP COLLARS AND BARREL AND ALL PIPE JOINTS SHALL BE WATERTIGHT. SELECTED BACKFILL MATERIAL SHALL BE PLACED AROUND THE CONDUIT IN LAYERS AND EACH LAYER SHALL BE COMPACTED TO AT LEAST THE SAME DENSITY AS THE ADJACENT EMBANKMENT. ALL COMPACTION WITHIN 2 FT. OF THE PIPE SPILLWAY WILL BE ACCOMPLISHED WITH HAND-OPERATED TAMPING EQUIPMENT.
- 6. DURING CONSTRUCTION, CB # 1 WILL SERVE AS THE OUTLET STRUCTURE FOR THE SEDIMENT BASIN. A SKIMMER WILL BE USED FOR DEWATERING THE BASIN (SEE DETAIL ON SHEET C8.4).
- 7. TRASH RACKS: THE TOP OF THE C.B. SHALL BE FITTED WITH TRASH RACKS FIRMLY FASTENED.
- 8. EMERGENCY SPILLWAY: THE EMERGENCY SPILLWAY SHALL BE CUT IN UNDISTURBED GROUND. ACCURATE CONSTRUCTION OF THE SPILLWAY ELEVATION AND WIDTH IS CRITICAL AND SHALL BE WITHIN A TOLERANCE OF 0.2
- 9. SEED AND MULCH: THE SEDIMENT BASIN SHALL BE STABILIZED IMMEDIATELY FOLLOWING ITS CONSTRUCTION. IN NO CASE SHALL THE EMBANKMENT OR EMERGENCY SPILLWAY REMAIN BARE FOR MORE THAN 7 DAYS.
- 10. SEDIMENT CLEANOUT: SEDIMENT SHALL BE REMOVED AND THE SEDIMENT BASIN RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS FILLED ONE—HALF THE POND'S ORIGINAL DEPTH OR AS INDICATED ON THE PLANS. SEDIMENT REMOVED FROM THE BASIN SHALL BE PLACED SO THAT IT WILL NOT ERODE.
- 11. ONCE CONSTRUCTION IS COMPLETE AND 80% OF THE UPLAND VEGETATION IS ESTABLISHED, THE SKIMMER WILL BE REMOVED AND THE 2" ORIFICE AND REVERSE FLOW PIPE (PER DETAIL ON SHEET C6.1) WILL BE INSTALLED. FINALLY THE SEDIMENT BASIN IS TO BE REGRADED TO THE FINAL DETENTION BASIN CONFIGURATION AND SEEDED.



*USE A DELAWARE DOT SKIMMER

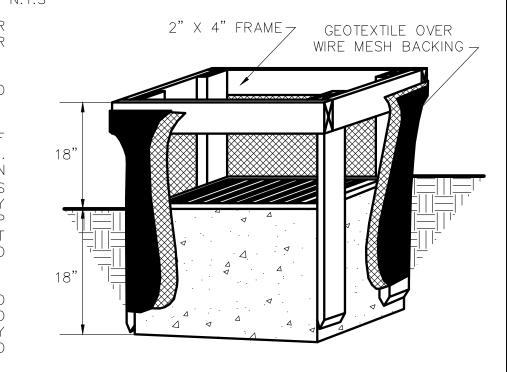
ROCK OUTLET PROTECTION



- 1. SUBGRADE FOR THE FILTER OR BEDDING AND RIPRAP SHALL BE PREPARED TO THE REQUIRED LINES AND GRADES AS SHOWN ON THE PLAN. THE SUBGRADE SHALL BE CLEARED OF ALL TREES, STUMPS, ROOTS, SOD, LOOSE ROCK, OR OTHER MATERIAL.
- 2. RIPRAP SHALL CONFORM TO THE GRADING LIMITS AS SHOWN ON THE PLAN.
- 3. GEOTEXTILE SHALL BE SECURELY ANCHORED ACCORDING TO MANUFACTURERS' RECOMMENDATIONS.
- 4. GEOTEXTILE SHALL BE LAID WITH THE LONG DIMENSION PARALLEL TO THE DIRECTION OF FLOW AND SHALL BE LAID LOOSELY BUT WITHOUT WRINKLES AND CREASES. WHERE JOINTS ARE NECESSARY, STRIPS SHALL BE PLACED TO PROVIDE A 12-IN. MINIMUM OVERLAP, WITH THE UPSTREAM STRIP OVERLAPPING THE DOWNSTREAM STRIP.
- 5. GRAVEL BEDDING SHALL BE ODOT NO. 67'S OR 57'S UNLESS SHOWN DIFFERENTLY ON THE DRAWINGS.
- 6. RIPRAP MAY BE PLACED BY EQUIPMENT BUT SHALL BE PLACED IN A MANNER TO PREVENT SLIPPAGE OR DAMAGE TO THE GEOTEXTILE.
- 7. RIPRAP SHALL BE PLACED BY A METHOD THAT DOES NOT CAUSE SEGREGATION OF SIZES. EXTENSIVE PUSHING WITH A DOZER CAUSES SEGREGATION AND SHALL BE AVOIDED BY DELIVERING RIPRAP NEAR ITS FINAL LOCATION WITHIN THE CHANNEL.
- 8. CONSTRUCTION SHALL BE SEQUENCED SO THAT OUTLET PROTECTION IS PLACED AND FUNCTIONAL WHEN THE STORM DRAIN, CULVERT, OR OPEN CHANNEL ABOVE IT BECOMES OPERATIONAL.
- 9. ALL DISTURBED AREAS WILL BE VEGETATED AS SOON AS PRACTICAL.

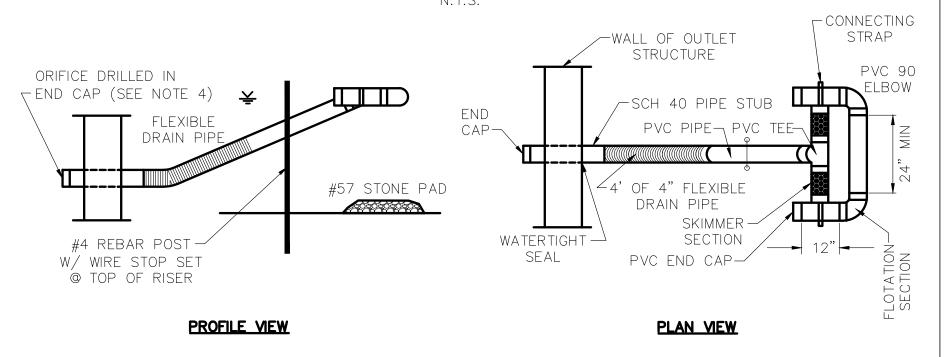
GEOTEXTILE INLET PROTECTION

- 1. INLET PROTECTION SHALL BE CONSTRUCTED EITHER BEFORE UPSLOPE LAND DISTURBANCE BEGINS OR BEFORE THE INLET BECOMES FUNCTIONAL.
- 2. THE EARTH AROUND THE INLET SHALL BE EXCAVATED COMPLETELY TO A DEPTH AT LEAST 18 INCHES.
- 3. THE WOODEN FRAME SHALL BE CONSTRUCTED OF 2-INCH BY 4-INCH CONSTRUCTION GRADE LUMBER. THE 2-INCH BY 4-INCH POSTS SHALL BE DRIVEN ONE (1) FT. INTO THE GROUND AT FOUR CORNERS OF THE INLET AND THE TOP PORTION OF 2-INCH BY 4-INCH FRAME ASSEMBLED USING THE OVERLAP JOINT SHOWN. THE TOP OF THE FRAME SHALL BE AT LEAST 6 INCHES BELOW ADJACENT ROADS IF PONDED WATER WILL POSE A SAFETY HAZARD TO TRAFFIC.
- 4. WIRE MESH SHALL BE OF SUFFICIENT STRENGTH TO SUPPORT FABRIC WITH WATER FULLY IMPOUNDED AGAINST IT. IT SHALL BE STRETCHED TIGHTLY AROUND THE FRAME AND FASTENED SECURELY TO THE FRAME.



- 5. GEOTEXTILE MATERIAL SHALL HAVE AN EQUIVALENT OPENING SIZE OF 20-40 SIEVE AND BE RESISTANT TO SUNLIGHT. IT SHALL BE STRETCHED TIGHTLY AROUND THE FRAME AND FASTENED SECURELY. IT SHALL EXTEND FROM THE TOP OF THE FRAME TO 18 INCHES BELOW THE INLET NOTCH ELEVATION. THE GEOTEXTILE SHALL OVERLAP ACROSS ONE SIDE OF THE INLET SO THE ENDS OF THE CLOTH ARE NOT FASTENED TO THE SAME POST.
- 6. BACKFILL SHALL BE PLACED AROUND THE INLET IN COMPACTED 6-INCH LAYERS UNTIL THE EARTH IS EVEN WITH NOTCH ELEVATION ON ENDS AND TOP ELEVATION ON SIDES.
- 7. A COMPACTED EARTH DIKE OR CHECK DAM SHALL BE CONSTRUCTED IN THE DITCH LINE BELOW THE INLET IF THE INLET IS NOT IN A DEPRESSION. THE TOP OF THE DIKE SHALL BE AT LEAST 6 INCHES HIGHER THAN THE TOP OF

DELAWARE SKIMMER DEWATERING DEVICE



NOTES:

- 1. ALL JOINTS OF THE FLOATATION SECTION SHALL BE GLUED TOGETHER AND WATERTIGHT. JOINTS OF THE SKIMMER SECTION NEED NOT BE WATERTIGHT.
- 2. TO INSTALL DEWATERING PIPE STUB:
 - FOR CORRUGATED METAL RISER, STUB SHALL BE SCH 40 STEEL PIPE TACK WELDED TO CREATE WATERTIGHT SEAL. FOR CONCRETE RISER, STUB SHALL BE SCH 40 PVC PIPE GROUTED TO CREATE A WATERTIGHT SEAL
- 3. FLEXIBLE, NON PERFORATED HDPE DRAIN PIPE SHALL BE ATTACHED TO OUTLET STRUCTURE DEWATERING STUB WITH WATERTIGHT CONNECTIONS.
- W/ 2.25" ORIFICE FOR A 48 HR DRAWDOWN TIME 4. USE A 2.25" ORIFICE DRILLED @ INV. 1100.00 FOR A MINIMUM 48—HOUR DEWATERING TIME.

CONCRETE WASHOUT FACILITY

TEMPORARY CONCRETE WASHOUT FACILITIES SHOULD BE LOCATED A MINIMUM OF 50 FT FROM STORM DRAIN INLETS. OPEN DRAINAGE FACILITIES, AND WATERCOURSES. EACH FACILITY SHOULD BE LOCATED AWAY FROM CONSTRUCTION TRAFFIC OR ACCESS AREAS TO PREVENT DISTURBANCE OR TRACKING.

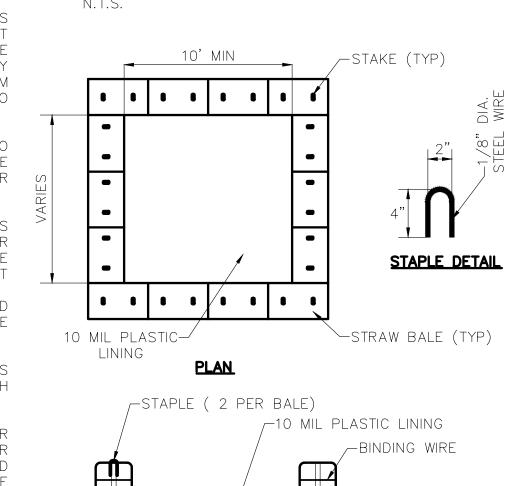
A SIGN SHOULD BE INSTALLED ADJACENT TO EACH WASHOUT FACILITY TO INFORM CONCRETE EQUIPMENT OPERATORS TO UTILIZE THE PROPER FACILITIES.

TEMPORARY CONCRETE WASHOUT FACILITIES SHOULD BE CONSTRUCTED ABOVE GRADE OR BELOW GRADE AT THE OPTION OF THE CONTRACTOR. TEMPORARY CONCRETE WASHOUT FACILITIES SHOULD BE CONSTRUCTED AND MAINTAINED IN SUFFICIENT QUANTITY AND SIZE TO CONTAIN ALL LIQUID AND CONCRETE WASTE GENERATED BY WASHOUT OPERATIONS.

ONLY CONCRETE FROM MIXER TRUCK CHUTES SHOULD BE WASHED INTO CONCRETE WASH

CONCRETE WASHOUT FROM CONCRETE PUMPER BINS CAN BE WASHED INTO CONCRETE PUMPER TRUCKS AND DISCHARGED INTO DESIGNATED WASHOUT AREA OR PROPERLY DISPOSED OF OFFSITE.

ONCE CONCRETE WASTES ARE WASHED INTO THE DESIGNATED AREA AND ALLOWED TO HARDEN, THE CONCRETE SHOULD BE BROKEN UP, REMOVED, AND DISPOSED OF ON A REGULAR BASIS.



STRAW BALE └NATIVE MATERIAL -WOOD OR METAL STAKE (OPTIONAL) (2 PER BALE) <u>SECTION</u>

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CONTOUR INT:

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DE-WATERING

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HAMMONTREE & ASSOCIATES, LIMITED.

DRAWINGS SHALL NOT BE USED BY ANY PERSON, FIRM OR

CORPORATION WITHOUT SPECIFIC WRITTEN PERMISSION FROM

TRAPEZOIDAL T=TOP WIDTH = VARIES d=DEPTH= VARIES TEMPORARY ECM INSTALLED CROSS SECTION IN THE BOTTOM OF THE

GRASSED SWALE

- ALL TREES, BRUSH, STUMPS, AND OTHER UNSUITABLE MATERIAL SHALL BE REMOVED FROM THE SITE.
- . THE CHANNEL SHALL BE EXCAVATED AND SHAPED TO THE PROPER GRADE AND CROSS SECTION.
- FILL MATERIAL USED IN THE CONSTRUCTION OF THE CHANNEL SHALL BE WELL COMPACTED IN UNIFORM LAYERS NOT EXCEEDING 9 INCHES USING THE WHEEL TREADS OR TRACKS OF THE CONSTRUCTION EQUIPMENT TO PREVENT UNEQUAL SETTLEMENT.
- EXCESS EARTH SHALL BE GRADED OR DISPOSED OF SO THAT IT WILL NOT RESTRICT FLOW TO THE CHANNEL OR INTERFERE WITH ITS FUNCTIONING.

DETAIL OF INLET SEDIMENT CONTROL DEVICE

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DATE:

ROJECT:

ITY/STATE:

5. STABILIZATION SHALL BE DONE ACCORDING TO THE APPROPRIATE SPECIFICATIONS FOR PERMANENT SEEDING, VEGETATIVE PRACTICES, SODDING AND MATTING.

CHANNEL.

- 6. CONSTRUCTION SHALL BE SEQUENCED SO THAT NEWLY CONSTRUCTED CHANNELS ARE STABILIZED PRIOR TO BECOMING OPERATIONAL. TO AID IN THE ESTABLISHMENT OF VEGETATION, SURFACE WATER MAY BE PREVENTED FROM ENTERING THE NEWLY CONSTRUCTED CHANNEL THROUGH THE ESTABLISHMENT
- 7. GULLIES THAT MAY FORM IN THE CHANNEL OR OTHER FROSION DAMAGE THAT OCCURS BEFORE THE GRASS LINING BECOMES ESTABLISHED SHALL BE REPAIRED WITHOUT DELAY.

CLOSURE

-DANDY BAG[®]

NOTE: THE DANDY BAG® WILL BE MANUFACTURED IN THE U.S.A. FROM A WOVEN MONOFILAMENT FABRIC THAT MEETS OR EXCEEDS THE FOLLOWING SPECIFICATIONS:

DANDY BAG®

SPECIFICATIONS

HI-FLOW DANDY BAG® (SAFETY ORANGE)

Mechanical Properties	Test Method	Units	MARV
Grab Tensile Strength	ASTM D 4632	kN (lbs)	1.62 (365) X 0.89 (2
Grab Tensile Elongation	ASTM D 4632	%	24 X 10
Puncture Strength	ASTM D 4833	kN (lbs)	0.40 (90)
Mullen Burst Strength	ASTM D 3786	kPa (psi)	3097 (450)
Trapezoid Tear Strength	ASTM D 4533	kN (lbs)	0.51 (115) X 0.33 (7
UV Resistence	ASTM D 4355	%	90
Apparent Opening Size	ASTM D 4751	Mm (US Std Sieve)	0.425 (40)
Flow Rate	ASTM D 4491	1/min/m² (gal/min/ft²)	5907 (145)
Permittivity	ASTM D 4491	Sec ⁻¹	2.1

*Note: All Dandy Bags® can be ordered with our optional oil absorbent pillows

DANDY SACK™ TORM-SEWER GRATE STRAPS REINFORCED -OPTIONAL CORNERS OVERFLOW PORTS REGULAR FLOW DANDY SACK™ (BLACK) Mechanical Properties Test Method MANAGEABLE 2 FOOT CONTAINMENT AREA**DUMPING** STRAPS INLET HI-FLOW DANDY SACK™ (SAFETY ORANGE) Mechanical Properties Test Method

DR. BY:

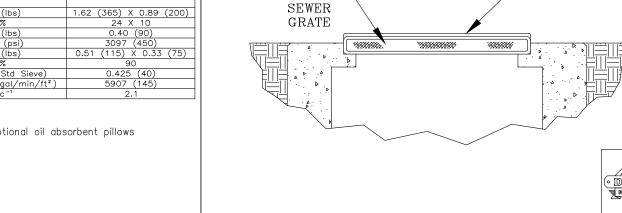
DR. NO:

NOTE: THE DANDY SACK™ WILL BE **MANUFACTURED IN THE U.S.A.** FROM A WOVEN

Grab Tensile Strength	ASTM D 4632	kN (lbs)	1.78 (400) x 1.40 (315)	
Grab Tensile Elongation	ASTM D 4632	%	15 x 15	
Puncture Strength	ASTM D 4833	kN (lbs)	0.67 (150)	
Mullen Burst Strength	ASTM D 3786	kPa (psi)	5506 (800)	
Trapezoid Tear Strength	ASTM D 4533	kN (lbs)	0.67 (150) x 0.73 (165)	LIFT STRAPS-
UV Resistence	ASTM D 4355	%	90	USED FOR
Apparent Opening Size	ASTM D 4751	Mm (US Std Sieve)	0.425 (40)	
Flow Rate	ASTM D 4491	1/min/m² (gal/min/ft²)	2852 (70)	EASY
Permittivity	ASTM D 4491	Sec ⁻¹	0.90	MOVEMENT
				AND

Grab Tensile Strength	ASTM D 4632	kN (lbs)	1.62 (365) X 0.89 (200)
Grab Tensile Elongation	ASTM D 4632	%	24 X 10
Puncture Strength	ASTM D 4833	kN (lbs)	0.40 (90)
Mullen Burst Strength	ASTM D 3786	kPa (psi)	3097 (450)
Trapezoid Tear Strength	ASTM D 4533	kN (lbs)	0.51 (115) X 0.33 (75)
UV Resistence	ASTM D 4355	%	90
Apparent Opening Size	ASTM D 4751	Mm (US Std Sieve)	0.425 (40)
Flow Rate	ASTM D 4491	1/min/m² (gal/min/ft²)	5907 (145)
Permittivity	ASTM D 4491	Sec ⁻¹	2.1

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



PUMP-

DISCHARGE

HOSE

(FOR ADDED FLOW)

PROJEC

CITY/S

STORM-

STORM

SEWER

GRATE

INSPECTION

OF UNIT

DETAIL OF INLET SEDIMENT CONTROL DEVICE

DANDY BAG®

PROJECT:		DR. BY:
CITY/STATE:	DATE:	DR. NO:

DANDY DEWATERING BAG[™]

DE-WATERING

- 1. A DE-WATERING PLAN SHALL BE DEVELOPED PRIOR TO THE COMMENCEMENT OF ANY PUMPING ACTIVITIES.
- 2. THE DE-WATERING PLAN SHALL INCLUDE ALL PUMPS AND RELATED EQUIPMENT NECESSARY FOR THE DEWATERING ACTIVITIES AND DESIGNATE AREAS FOR PLACEMENT OF PRACTICES. OUTLETS FOR PRACTICES SHALL BE PROTECTED FROM SCOUR EITHER BY RIPRAP PROTECTION, FABRIC LINER, OR OTHER ACCEPTABLE METHOD OF OUTLET PROTECTION.
- 3. WATER THAT IS NOT DISCHARGED INTO A SETTLING/TREATMENT BASIN BUT DIRECTLY INTO WATERS OF THE STATE SHALL BE MONITORED HOURLY. DISCHARGED WATER SHALL BE WITHIN ±5° F OF THE RECEIVING WATERS.
- 4. SETTLING BASINS SHALL NOT BE GREATER THAN FOUR (4) FEET IN DEPTH. THE BASIN SHALL BE CONSTRUCTED FOR SEDIMENT STORAGE AS OUTLINED IN CHAPTER 6, SEDIMENT BASIN OR SEDIMENT TRAP. THE INLET AND OUTLET FOR THE BASIN SHALL BE LOCATED AT THE FURTHEST POINTS OF THE STORAGE. A FLOATING OUTLET SHALL BE USED TO ENSURE THAT SETTLED SOLIDS DO NOT RE-SUSPEND DURING THE DISCHARGE PROCESS. THE SETTLING BASIN SHALL BE CLEANED OUT WHEN THE STORAGE HAS BEEN REDUCED BY 50% OF ITS ORIGINAL CAPACITY.
- 5. ALL NECESSARY NATIONAL, STATE AND LOCAL PERMITS SHALL BE SECURED PRIOR TO DISCHARGING INTO WATERS OF THE STATE.

_ FLOW

-TIE DOWN

STRAP

SEWN IN SPOUT - WATER PUMPDANDY ™ DEWATERING BAGFILTERED — WATER

494749474947494749474947494 AGGREGATE OR STRAW-SIDE VIEW UNDERLAY

									W.
	DETAIL	OF	A	DEV	VATERING	BAG			
CT:							DR.	BY:	
TATE:					DATE:		DR.	NO:	

DANDY DEWATERING BAGTM SPECIFICATIONS

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

DANDY DEWATERING BAG™

hanical Properties	Test Method	Units	MARV
Tana'la Charastla	ACTM D 4070	1.81 (16 -)	0.0 (205) 0.0 (205)
Tensile Strength	ASTM D 4632	kN (lbs)	0.9 (205) x 0.9 (205)
Tensile Elongation	ASTM D 4632	%	50 × 50
incture Strength	ASTM D 4833	kN (lbs)	0.58 (130)
en Burst Strength	ASTM D 3786	kPa (psi)	2618 (380)
zoid Tear Strength	ASTM D 4533	kN (lbs)	0.36 (80) X 0.36 (80)
UV Resistence	ASTM D 4355	%	70
rent Opening Size	ASTM D 4751	Mm (US Std Sieve)	0.180 (80)
Flow Rate	ASTM D 4491	1/min/m² (gal/min/ft²)	3866 (95)
Permittivity	ASTM D 4491	Sec ⁻¹	1.2

TURF REINFORCEMENT MATTING

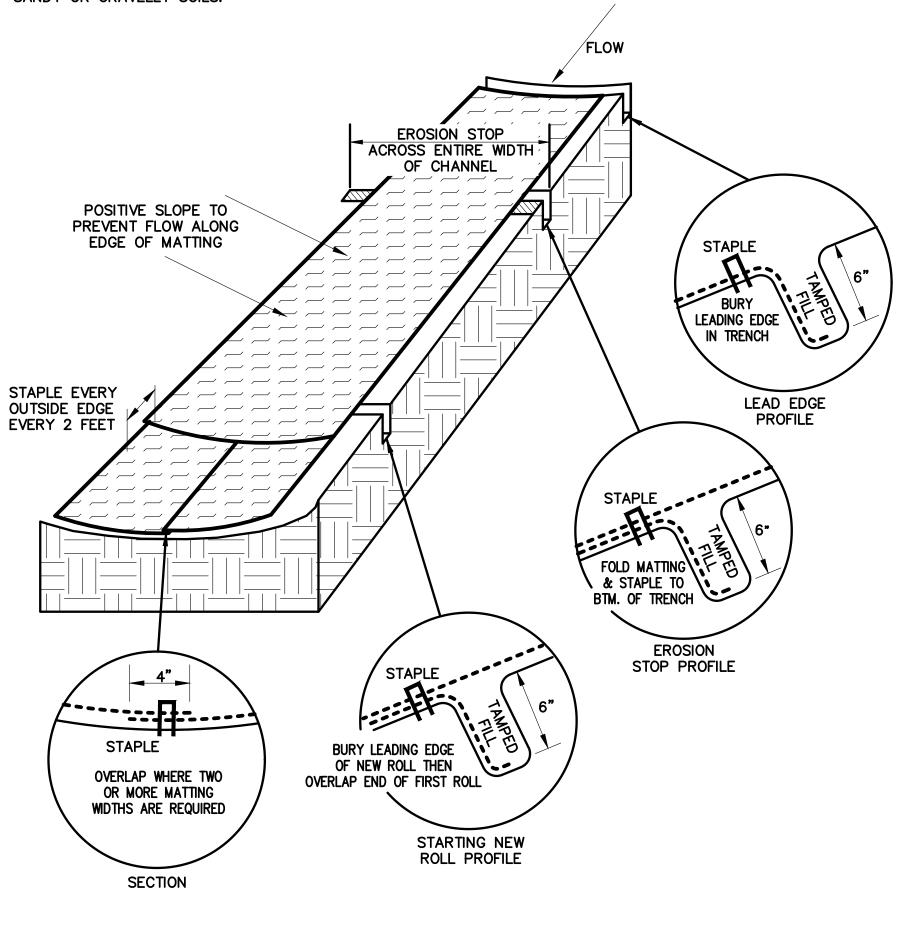
- 1. CHANNEL/SLOPE SOIL PREPARATION GRADE AND COMPACT AREA OF INSTALLATION, PREPARING SEEDBED BY LOOSENING 2"-3" OF TOPSOIL ABOVE FINAL GRADE. INCORPORATE AMENDMENTS SUCH AS LIME AND FERTILIZER INTO SOIL. REMOVE ALL ROCKS, CLODS, VEGETATION OR OTHER DEBRIS SO THAT INSTALLED TRM WILL HAVE DIRECT CONTACT WITH THE SOIL SURFACE.
- 2. CHANNEL/SLOPE SEEDING APPLY SEED TO SOIL SURFACE PRIOR TO INSTALLATION. ALL CHECK SLOTS, ANCHOR TRENCHES, AND OTHER DISTURBED AREAS MUST BE RESEEDED. REFER TO THE PERMANENT SEEDING SPECIFICATION FOR SEEDING RECOMMENDATIONS.

SLOPE INSTALLATION

- 3. EXCAVATE TOP AND BOTTOM TRENCHES (12"X6"). INTERMITTENT EROSION CHECK SLOTS (6"X6") MAY BE REQUIRED BASED ON SLOPE LENGTH. EXCAVATE TOP ANCHÓR TRENCH 2' X 3' OVER CREST OF THE SLOPE.
- 4. IF INTERMITTENT EROSION CHECK SLOTS ARE REQUIRED INSTALL TRM IN 6"X6" SLOT AT A MAXIMUM OF 30' CENTERS OR THE MID POINT OF THE SLOPE. TRM SHOULD BE STAPLED INTO TRENCH ON 12" CENTERS.
- 5. INSTALL TRM IN TOP ANCHOR TRENCH, ANCHOR ON 12" SPACINGS, BACKFILL AND COMPACT SOIL
- 6. UNROLL TRM DOWN SLOPE WITH ADJACENT ROLLS OVERLAPPED A MINIMUM OF 3". ANCHOR THE SEAM EVERY 18". LAY THE TRM LOOSE TO MAINTAIN DIRECT SOIL CONTACT, DO NOT PULL TAUGHT.
- 7. OVERLAP ROLL ENDS A MINIMUM OF 12" WITH UPSLOPE TRM ON TOP FOR A SHINGLE EFFECT. BEGIN ALL NEW ROLLS IN AN EROSION CHECK SLOT IF REQUIRED, DOUBLE ANCHOR ACROSS ROLL EVERY 12".
- 8. INSTALL TRM IN BOTTOM ANCHOR TRENCH (12"X6"), ANCHOR EVERY 12". PLACE ALL OTHER STAPLES THROUGHOUT SLOPE AT 1 TO 2.5 PER SQUARE YARD DEPENDANT ON SLOPE. REFER TO MANUFACTURER'S ANCHOR GUIDE.

CHANNEL INSTALLATION

- 9. EXCAVATE INITIAL ANCHOR TRENCH (12"X6") ACROSS THE LOWER END OF THE PROJECT AREA.
- 10. EXCAVATE INTERMITTENT CHECK SLOTS (6"X6") ACROSS THE CHANNEL AT 30' INTERVALS ALONG THE CHANNEL.
- 11. EXCAVATE LONGITUDINAL CHANNEL ANCHOR SLOTS (4"X4") ALONG BOTH SIDES OF THE CHANNEL TO BURY THE EDGES. WHENEVER POSSIBLE EXTEND THE TRM 2'-3' ABOVE THE CREST OF CHANNEL SIDE SLOPES.
- 12. INSTALL TRM IN INITIAL ANCHOR TRENCH (DOWNSTREAM) ANCHOR EVERY 12", BACKFILL AND COMPACT SOIL.
- 13. ROLL OUT TRM BEGINNING IN THE CENTER OF THE CHANNEL TOWARD THE INTERMITTENT CHECK SLOT. DO NOT PULL TAUGHT. UNROLL ADJACENT ROLLS UPSTREAM WITH A 3" MINIMUM OVERLAP (ANCHOR EVERY 18") AND UP EACH CHANNEL SIDE SLOPE.
- 14. AT TOP OF CHANNEL SIDE SLOPES INSTALL TRM IN THE LONGITUDINAL ANCHOR SLOTS, ANCHOR EVERY 18".
- 15. INSTALL TRM IN INTERMITTENT CHECK SLOTS. LAY INTO TRENCH AND SECURE WITH ANCHORS EVERY 12", BACKFILL WITH SOIL AND COMPACT.
- 16. OVERLAP ROLL ENDS A MINIMUM OF 12" WITH UPSTREAM TRM ON TOP FOR A SHINGLING EFFECT. BEGIN ALL NEW ROLLS IN AN INTERMITTENT CHECK SLOT, DOUBLE ANCHORED EVERY 12".
- 17. INSTALL UPSTREAM END IN A TERMINAL ANCHOR TRENCH (12"X6"); ANCHOR EVERY 12", BACKFILL AND COMPACT.
- 18. COMPLETE ANCHORING THROUGHOUT CHANNEL AT 2.5 PER SQUARE YARD USING SUITABLE GROUND ANCHORING DEVICES (U SHAPED WIRE STAPLES, METAL GEOTEXTILE PINS, PLASTIC STAKES, AND TRIANGULAR WOODEN STAKES). ANCHORS SHOULD BE OF SUFFICIENT LENGTH TO RESIST PULLOUT. LONGER ANCHORS MAY BE REQUIRED IN LOOSE SANDY OR GRAVELLY SOILS.



TECHNICAL

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TEMPORARY SEEDING

SEEDING DATES	SPECIES	LB./1000 FT2	LB/ACRE
MARCH 1 TO AUGUST 15	OATS TALL FESCUE ANNUAL RYEGRASS	3 1 1	128 40 40
	PERENNIAL RYEGRASS TALL FESCUE ANNUAL RYEGRASS	1 1 1	40 40 40
	ANNUAL RYEGRASS PERENNIAL RYEGRASS CREEPING RED FESCUE KENTUCKY BLUEGRASS	1.25 3.25 0.40 0.40	55 142 17 17
	OATS TALL FESCUE ANNUAL RYEGRASS	3 1 1	128 40 40
AUGUST 16TH TO NOVEMBER	RYE TALL FESCUE ANNUAL RYEGRASS	3 1 1	112 40 40
	WHEAT TALL FESCUE ANNUAL RYEGRASS	3 1 1	120 40 40
	PERENNIAL RYE TALL FESCUE ANNUAL RYEGRASS	1 1 1	40 40 40
	ANNUAL RYEGRASS PERENNIAL RYEGRASS CREEPING RED FESCUE KENTUCKY BLUEGRASS	1.25 3.25 0.40 0.40	40 40 40
NOVEMBER 1 TO FEB. 29	USE MULCH ONLY OR DORMANT SEEDING		

NOTE: OTHER APPROVED SPECIES MAY BE SUBSTITUTED.

- 1. STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES SUCH AS DIVERSIONS AND SEDIMENT TRAPS SHALL BE INSTALLED AND STABILIZED WITH TEMPORARY SEEDING PRIOR TO GRADING THE REST OF THE CONSTRUCTION SITE.
- 2. TEMPORARY SEED SHALL BE APPLIED BETWEEN CONSTRUCTION OPERATIONS ON SOIL THAT WILL NOT BE GRADED OR REWORKED FOR 14 DAYS OR GREATER. THESE IDLE AREAS SHALL BE SEEDED WITHIN 7 DAYS AFTER GRADING.
- 3. THE SEEDBED SHOULD BE PULVERIZED AND LOOSE TO ENSURE THE SUCCESS OF ESTABLISHING VEGETATION. TEMPORARY SEEDING SHOULD NOT BE POSTPONED IF IDEAL SEEDBED PREPARATION IS NOT POSSIBLE.
- 4. SOIL AMENDMENTS: TEMPORARY VEGETATION SEEDING RATES SHALL ESTABLISH ADEQUATE STANDS OF VEGETATION, WHICH MAY REQUIRE THE USE OF SOIL AMENDMENTS. BASE RATES FOR LIME AND FERTILIZER SHALL BE USED.
- 5. SEEDING METHOD: SEED SHALL BE APPLIED UNIFORMLY WITH A CYCLONE SPREADER, DRILL, CULTIPACKER SEEDER, OR HYDROSEEDER. WHEN FEASIBLE, SEED THAT HAS BEEN BROADCAST SHALL BE COVERED BY RAKING OR DRAGGING AND THEN LIGHTLY TAMPED INTO PLACE USING A ROLLER OR CULTIPACKER. IF HYDROSEEDING IS USED, THE SEED AND FERTILIZER WILL BE MIXED ON-SITE AND THE SEEDING SHALL BE DONE IMMEDIATELY AND WITHOUT INTERRUPTION.

PERMANENT SEEDING

SEED MIX	SEEDING RATE		NOTES:
	LBS./ACRE	LBS./1,000 SQ. FEET	
	GENE	RAL USE	
CREEPING RED FESCUE DOMESTIC RYEGRASS KENTUCKY BLUEGRASS	20-40 10-20 20-40	1/2-1 1/4-1/2 1/2-1	FOR CLOSE MOWING & FOR WATERWAYS WITH < FT/SEC VELOCITY
TALL FESCUE TURF—TYPE (DWARF) FESCUE	40-50 90	1-1 1/4 2 1/4	
	STEEP BANKS	OR CUT SLOPES	
TALL FESCUE CROWN VETCH TALL FESCUE	40-50 10-20 20-30	1-1 1/4 1/4-1/2 1/2-3/4	DO NOT SEED LATER THAN AUGUST
FLAT PEA TALL FESCUE	20-25 20-30	1/2-3/4 1/2-3/4	DO NOT SEED LATER THAN AUGUST
	ROAD DITCHE	ES AND SWALES	
TALL FESCUE TURF—TYPE (DWARF) FESCUE KENTUCKY BLUEGRASS	40-50 80 5	1-1 1/4 2 1/4 0.1	
	L	AWNS	
KENTUCKY BLUEGRASS PERENNIAL RYEGRASS	100-120	2 2	
KENTUCKY BLUEGRASS CREEPING RED FESCUE	100-120	2 1-1/2	FOR SHADED AREAS

- SUBSOILER, PLOW, OR OTHER IMPLEMENT SHALL BE USED TO REDUCE SOIL COMPACTION AND ALLOW MAXIMUM INFILTRATION. (MAXIMIZING INFILTRATION WILL HELP CONTROL BOTH RUNOFF RATE AND WATER QUALITY.) SUBSOILING SHOULD BE DONE WHEN THE SOIL MOISTURE IS LOW ENOUGH TO ALLOW THE SOIL TO CRACK OR FRACTURE. SUBSOILING SHALL NOT BE DONE ON SLIP-PRONE AREAS WHERE SOIL PREPARATION SHOULD BE LIMITED TO WHAT IS NECESSARY FOR ESTABLISHING VEGETATION.
- 2. THE SITE SHALL BE GRADED AS NEEDED TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR SEEDBED PREPARATION AND SEEDING.
- 3. TOPSOIL SHALL BE APPLIED WHERE NEEDED TO ESTABLISH VEGETATION.

- 1. LIME: AGRICULTURAL GROUND LIMESTONE SHALL BE APPLIED TO ACID SOIL AS RECOMMENDED BY A SOIL TEST. IN SOIL TEST, LIME SHALL BE APPLIED AT THE RATE OF 100 POUNDS PER 1,000-SQ. FT. OR 2 TONS PER ACRE.
- 2. FERTILIZER: FERTILIZER SHALL BE APPLIED AS RECOMMENDED BY A SOIL TEST. IN PLACE OF A SOIL TEST, FERTILIZER SHALL BE APPLIED AT A RATE OF 25 POUNDS PER 1,000-SQ. FT. OR 1000 POUNDS PER ACRE OF A 10-10-10 OR 12-12-12 ANALYSES.
- 3. THE LIME AND FERTILIZER SHALL BE WORKED INTO THE SOIL WITH A DISK HARROW, SPRING—TOOTH HARROW, OR OTHER SUITABLE FIELD IMPLEMENT TO A DEPTH OF 3 INCHES. ON SLOPING LAND, THE SOIL SHALL BE WORKED ON THE CONTOUR.
- <u>SEEDING DATES AND SOIL CONDITIONS:</u> SEEDING SHOULD BE DONE MARCH 1 TO MAY 31 OR AUGUST 1 TO SEPTEMBER 30. IF SEEDING OCCURS OUTSIDE OF THE ABOVE-SPECIFIED DATES, ADDITIONAL MULCH AND IRRIGATION MAY BE REQUIRED TO ENSURE A MINIMUM OF 80% GERMINATION. TILLAGE FOR SEEDBED PREPARATION SHOULD BE DONE WHEN THE SOIL IS DRY ENOUGH TO CRUMBLE AND NOT FORM RIBBONS WHEN COMPRESSED BY HAND. FOR WINTER SEEDING, SEE THE FOLLOWING SECTION ON DORMANT SEEDING.

1. SEEDINGS SHOULD NOT BE MADE FROM OCTOBER 1 THROUGH NOVEMBER 20. DURING THIS PERIOD, THE SEEDS ARE LIKELY TO GERMINATE BUT PROBABLY WILL NOT BE ABLE TO SURVIVE THE WINTER.

TOPSOILING

CUT SLOPES-GREATER THAN 3:1 SLOPES

1. STAIR-STEP GRADING MAY BE CARRIED OUT ON ANY MATERIAL SOFT ENOUGH TO BE RIPPED WITH A BULLDOZER. THE RATIO OF THE HORIZONTAL DISTANCE TO THE VERTICAL CUT DISTANCE SHALL BE FLATTER THAN 1:1 AND THE HORIZONTAL PORTION OF THE "STEP" SHALL SLOPE TOWARD THE VERTICAL WALL. INDIVIDUAL VERTICAL CUTS SHALL NOT BE MORE THAN 24 INCHES ON SOFT SOIL MATERIALS AND NOT MORE THAN 36 INCHES IN ROCKY MATERIALS.

GRADE TREATMENT

2. GROOVING MAY BE MADE WITH ANY APPROPRIATE IMPLEMENT WHICH CAN BE SAFELY OPERATED ON THE SLOPE AND WHICH WILL NOT CAUSE UNDUE COMPACTION. SUGGESTED IMPLEMENTS INCLUDE DISCS, TILLERS, SPRING HARROWS, AND THE TEETH ON A FRONT-END LOADER BUCKET. SUCH GROOVES SHALL NOT BE LESS THAN 3 INCHES DEEP NOR FURTHER THAN 15 INCHES APART.

FILL SLOPES-GREATER THAN 3:1 SLOPES

- FILL SLOPES STEEPER THAN 3:1 SHALL BE GROOVED OR ALLOWED TO REMAIN ROUGH AS THEY ARE CONSTRUCTED UTILIZING METHOD (1) OR (2) BELOW.
- 1. GROOVING MAY BE MADE WITH ANY APPROPRIATE IMPLEMENT WHICH CAN BE SAFELY OPERATED ON THE SLOPE AND WHICH WILL NOT CAUSE UNDUE COMPACTION SUCH AS DISCS, TILLERS, SPRING HARROWS, AND THE TEETH ON A FRONT-END LOADER BUCKET. GROOVES LEFT SHALL NOT BE LESS THAN 3 INCHES DEEP NOR FURTHER THAN 15 INCHES APART.
- 2. AS LIFTS OF THE FILL ARE CONSTRUCTED, SOIL AND ROCK MATERIALS MAY BE ALLOWED TO FALL NATURALLY ONTO THE SLOPE SURFACE. AT NO TIME SHALL SLOPES BE BLADED OR SCRAPED TO PRODUCE A SMOOTH, HARD SURFACE.
- CUTS, FILLS, AND GRADED AREAS WHICH WILL BE MOWED
- 1. MOWED SLOPES SHOULD NOT BE STEEPER THAN 3:1 AND SHALL AVOID EXCESSIVE ROUGHNESS. THESE AREAS MAY BE ROUGHENED WITH SHALLOW GROOVES SUCH AS THOSE, WHICH REMAIN AFTER TILLING, DISCING, HARROWING, RAKING, OR USE OF A CULTIPACKER—SEEDER. THE FINAL PASS OF ANY SUCH TILLAGE IMPLEMENT SHALL BE ON THE CONTOUR (PERPENDICULAR TO THE SLOPE).
- 2. GROOVES FORMED BY IMPLEMENTS SHALL BE NOT LESS THAN 1 INCH DEEP AND NOT FURTHER THAN 12 INCHES APART. FILL SLOPES THAT ARE LEFT ROUGH DURING CONSTRUCTION MAY BE SMOOTHED WITH A CHAIN HARROW OR SIMILAR IMPLEMENT TO FACILITATE MOWING.

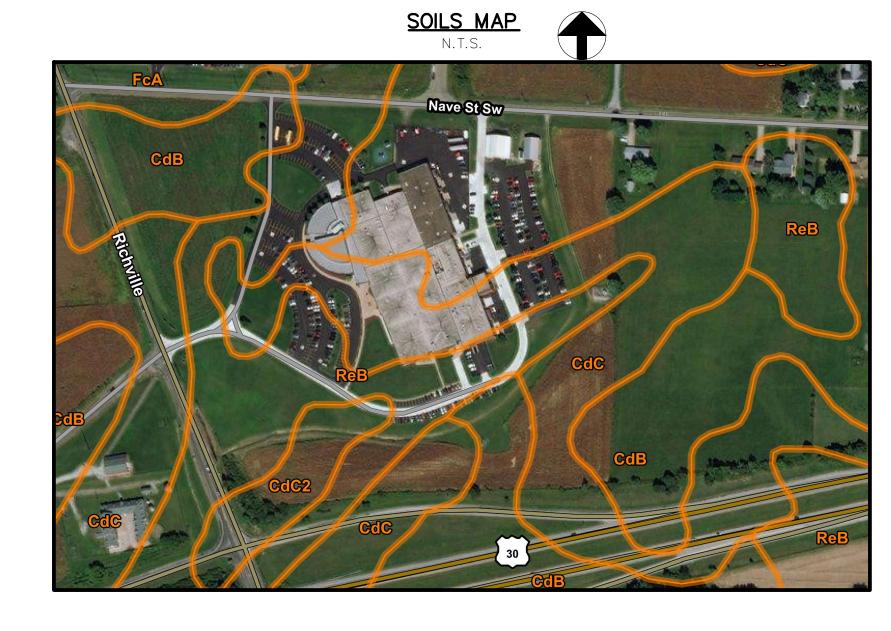
SALVAGING AND STOCKPILING:

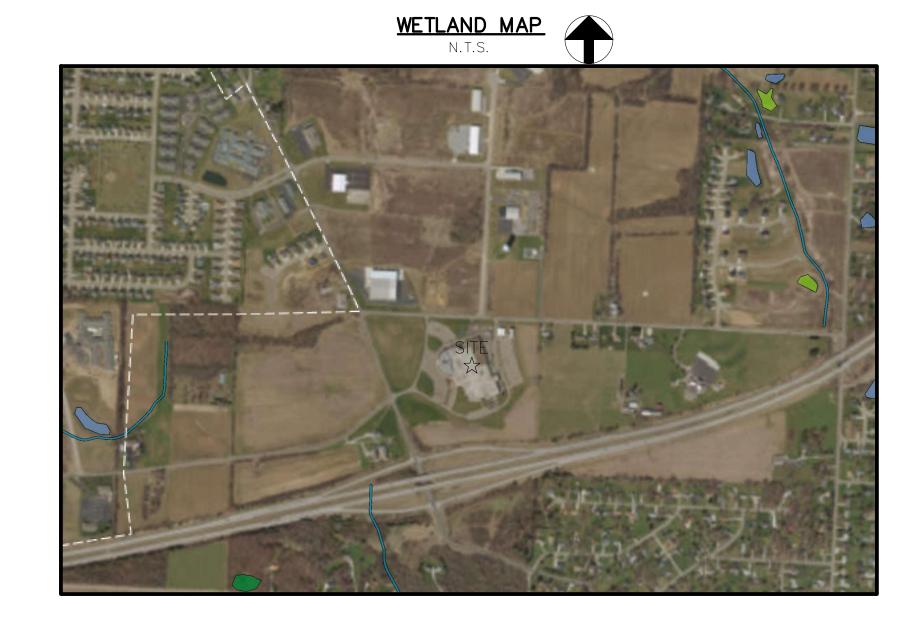
- 1. DETERMINE THE DEPTH AND SUITABILITY OF TOPSOIL AT THE SITE. (FOR HELP, CONTACT YOUR LOCAL SWCD OFFICE TO OBTAIN A COUNTY SOIL SURVEY REPORT).
- 2. PRIOR TO STRIPPING TOPSOIL, INSTALL APPROPRIATE DOWNSLOPE EROSION AND SEDIMENTATION CONTROLS SUCH AS SEDIMENT TRAPS AND BASINS.
- 3. REMOVE THE SOIL MATERIAL NO DEEPER THAN WHAT THE COUNTY SOIL SURVEY DESCRIBES AS "SURFACE SOIL" (IE. A OR AP HORIZON).
- 4. CONSTRUCT STOCKPILES IN ACCESSIBLE LOCATIONS THAT DO NOT INTERFERE WITH NATURAL DRAINAGE. INSTALL APPROPRIATE SEDIMENT CONTROLS TO TRAP SEDIMENT SUCH AS SILT FENCE IMMEDIATELY ADJACENT TO THE STOCKPILE OR SEDIMENT TRAPS OR BASINS DOWNSTREAM OF THE STOCKPILE. STOCKPILE SIDE SLOPES SHALL NOT EXCEED A RATIO OF 2:1.
- 5. IF TOPSOIL IS STORED FOR MORE THAN 21DAYS, IT SHOULD BE TEMPORARY SEEDED, OR COVERED WITH A TARP.

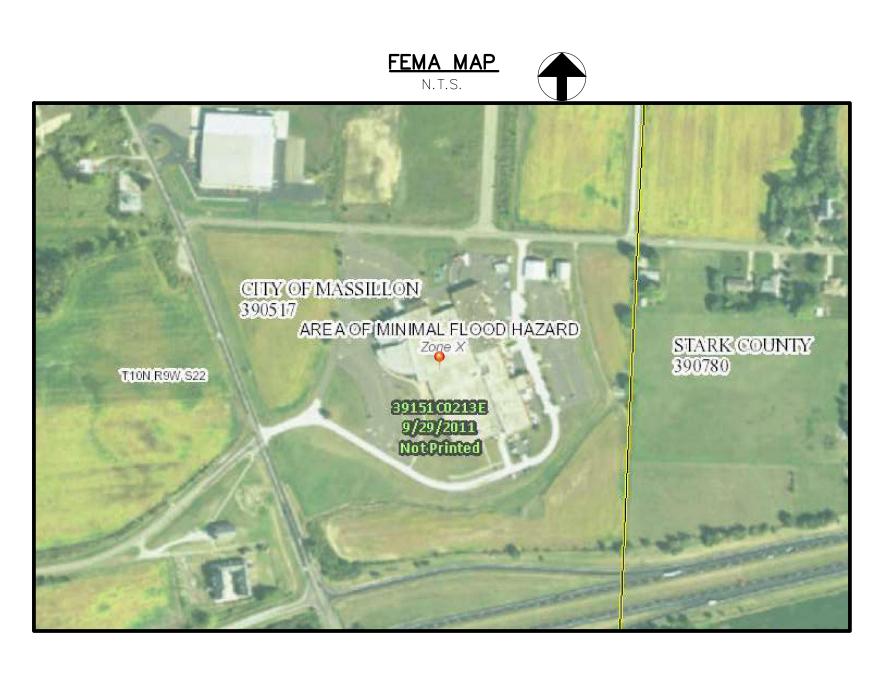
SPREADING THE TOPSOIL

- 1. PRIOR TO APPLYING TOPSOIL, THE TOPSOIL SHOULD BE PULVERIZED.
- 2. TO ENSURE BONDING, GRADE THE SUBSOIL AND ROUGHEN THE TOP 3-4 IN. BY DISKING.
- 3. DO NOT APPLY WHEN SITE IS WET, MUDDY, OR FROZEN, BECAUSE IT MAKES SPREADING DIFFICULT, CAUSES COMPACTION PROBLEMS, AND INHIBITS BONDING WITH SUBSOIL.
- 4. APPLY TOPSOIL EVENLY TO A DEPTH OF AT LEAST 4 INCHES AND COMPACT SLIGHTLY TO IMPROVE CONTACT WITH
- 5. AFTER SPREADING, GRADE AND STABILIZE WITH SEEDING OR APPROPRIATE VEGETATION.

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