

Agenda
City of Springboro Planning Commission Meeting
Wednesday, September 8, 2021, 6:00 p.m.
Council Chambers, Springboro City Building, 320 West Central Avenue

- I. Call to Order
- II. Approval of Minutes
 - A. August 18, 2021 Planning Commission Meeting
- III. Agenda Items
 - A. Formal Approval, Site Plan Review, 95 West Central Avenue (SR 73), proposed vehicle service facility for Foreign Exchange
- IV. Guest Comments
- V. Planning Commission and Staff Comments
- VI. Adjournment

APPLICATION—SITE PLANS, SUBDIVISIONS & RECORD PLANS

CITY OF SPRINGBORO PLANNING COMMISSION

☒ SITE PLAN ☐ REVISION TO APPROVED SITE PLAN ☐ CONCEPT PLAN ☐ PRELIMINARY SUBDIVISION ☐ RECORD PLAN

The undersigned requests the approval identified above. Site Plan Review approvals subject to expiration provided for in Section 1284.18 of the Planning and Zoning Code. For all approvals under this application, it is understood that it shall only authorize the approval described in this application, subject to any conditions or safeguards required by the Planning Commission, and/or City Council.

☐ Owner
☒ Agent
☐ Lessee
☐ Signed Purchase Contract

APPLICANT NAME: Dryden Builders, Inc.

Address: 1741 Thomas Paine Parkway
Centerville, Ohio 45459

Telephone No. (937) 439-2728

Fax No. (937) 439-2729

Email Address: chris@drydenbuilders.com

PROPERTY OWNER NAME (IF OTHER): Anthony Bors (Ann M. Weiskircher, ETAL)

Address: 1997 Hart Road
Lebanon, Ohio 45036

Telephone No. ()

Property Address or General Location: 95 W. Central Avenue

Parcel Number(s): 0413229024 Zoning District: UVD

Proposed Use: New location for Foreign Exchange - Vehicle Service Center

The applicant or representative who is authorized to speak on behalf of the request must also be present at all meetings.


(Signature of Applicant and/or Agent)

Dryden Builders, Inc.
Christopher A. Hinkel, President

Printed Name

August 20, 2021

(Date)

July 22, 2021

Anthony Bors
1997 Hart Road
Lebanon, Ohio 45036

I authorize Rick's Foreign Exchange, LLC and Dryden Builders, Inc. permission to present plans to the City of Springboro Planning Commission for property located at 95 W. Central Avenue.

Sincerely,

A handwritten signature in cursive script that reads "Anthony D. Bors". The signature is written in dark ink and is positioned above the printed name.

Anthony Bors

Background Information & Staff Comments
City of Springboro Planning Commission Meeting
Wednesday, September 8, 2021, 6:00 p.m.

III. Agenda Items

A. Final Review

Site Plan Review, 95 West Central Avenue (SR 73), proposed vehicle service facility for Foreign Exchange

Background Information

This agenda item is an application for site plan review filed by Dryden Builders, Inc., on behalf of Foreign Exchange, to permit the construction of a vehicle repair facility at 95 West Central Avenue (SR 73). The subject property is located southeast of the intersection of West Central Avenue and South Main Street. Foreign Exchange proposes to relocate their operation located in Clearcreek Township to the subject property. In addition to the Clearcreek Township location, the company operates other locations in West Chester, Centerville, and Moraine.

The subject property is located in the UVD, Urban Village District. While the applicant has been advised that the proposed use is permitted, the redevelopment of the site and any other in the UVD will need to comply with the high design and development standards of the UVD and the standard site plan review requirements.

Existing land uses include to the east the soon to open Latin Arepas restaurant at 85 West Central Avenue, to the south the former site of Jonathan Wright Elementary School, to the west a single-family residence at 105 West Central Avenue, and to the north on the north side of West Central Avenue, Kleather's pumpkin patch and single-family residence, the small commercial building that houses Scotty's barber shop, and the developing Wright Station development on the former IGA shopping center site.

Existing zoning in the vicinity of the subject property is UVD to the west, north on the north side of West Central Avenue, and east. To the south existing zoning is R-2, Low-Density Residential District, on the former site of Jonathan Wright Elementary School.

The City is in receipt of a letter from the existing property owner indicating authorization to proceed through the development review process prior to sale.

This item was reviewed on a preliminary basis at the August 18th Planning Commission meeting.

Staff Recommendation

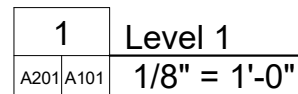
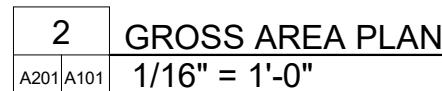
City staff recommends APPROVAL of the site plan for 95 West Central Avenue contingent on complying with the following comments following action by the Planning Commission:

1. The proposed use to comply with Section 1264.26, Development Standards for Specific Uses, Major and Minor Vehicle Repair that are included here for reference purposes:

- (a) Lot Area. The minimum lot area shall be 12,000 square feet.
 - (b) Parking Location. The site plan shall be designed to locate vehicles awaiting or undergoing repair, employee parking, and customer parking behind the building setback line.
 - (c) Screening. In addition to the screening requirements in Chapter 1280 (Landscaping), outdoor storage of vehicles awaiting or undergoing repair shall be screened on all sides by a solid wood fence or brick or stone wall 6feet in height. Such fence or wall shall be maintained in good repair and attractive condition at all times.
 - (d) Petroleum Containment. Tracking of oil or other petroleum-based substances onto the public right- of-way shall be avoided by proper management of such materials.
 - (e) Parking Duration. Storage of vehicles overnight at a Minor Vehicle Repair facility is prohibited. Any motor vehicle that is being repaired at a Major Vehicle Repair facility shall not remain on the premises for more than 10 days.
 - (f) Dismantling Prohibited. No vehicle shall be dismantled unless said vehicle is being repaired inside the garage and said repair shall be accompanied by a repair order showing the description of the automobile, owner and the description of the work required. A valid and current license plate shall be displayed on all vehicles.
 - (g) Enclosed Building. All activities shall take place inside the building. All lubrication equipment, automobile wash equipment, hoists, and pits shall be enclosed entirely within a building.
 - (h) Sales and Rentals Prohibited. The sale or rental of vehicles or utility trailers of any kind shall be prohibited. No vehicle parked on the property shall be dismantled for the purposes of selling, bartering, swapping or giving of any part or parts of said vehicle.
 - (i) Large Vehicles. No trucks with a capacity over one ton, buses, camping trailers, truck or trailers shall be permitted on the property at any time unless the said vehicles are being repaired in the garage.
 - (j) Trash Containers and Rubbish. There shall be trash containers of sufficient size and capacity to contain any and all wastes generated by the operation of business. The premises shall be devoid of all rubbish, litter, debris, automobile parts, etc.
 - (k) Parking for Quick Oil Change Facilities. Quick oil change facilities shall provide off-street waiting spaces equal to five (5) times the number of oil change stalls for automobiles awaiting entrance. Each off-street waiting space shall be 10 feet wide by 20 feet long.
 - (l) Storage or Impounding. Storage or impounding of vehicles at a Minor Vehicle Repair facility is prohibited. Any motor vehicle that is being stored or impounded at a Major Vehicle Repair facility shall not remain on the premises for more than 10 days.
 - (m) Hours of Operation. In addition to all of the above standards, any vehicle repair facility adjacent to any residential district may only be open between the hours of 7:00 a.m. and 10:00 p.m.
2. For proposed lighting plan, address the following:
 - (a) Include ratios for maximum to minimum and average to minimum.
 - (b) Verify that proposed light fixtures are 3500° degrees Kelvin or less. Fixtures A and B appear to not comply.
 - (c) Verify that proposed fixture C complies with flush-mounting provides of code.
 3. Indicate plans (timetable, setbacks, size and other details) for implementing future building areas shown on sheet CP-2.0. If not concurrent with proposed building/site proposed under this application, remove and revise site plan to comply with screening and landscaping and other provisions including the vehicle storage portion of the pavement. If the proposed building are to be developed at this time, building plans and design/development information is needed at this time that comply with UVD/Planning & Zoning Code standards.

4. Per UVD Section 1267.08(a)(1), Four-Sided Consistency, staff recommends the following:
 - (a) Extend proposed awning across front/north elevation façade.
 - (b) Provide window openings on the west and south elevations
5. Proposed signage and mural to be reviewed by City staff outside of Planning Commission site plan review process per sign code, UVD standards.
6. Per UVD Section 1267.08(a)(2), Orientation to Street, the front/north elevation needs to be architecturally enhanced to address this requirement with respect to the proposed building entrance.
7. Provide a record plan dedicating 60 Ft. right of way across frontage of SR 73 as well as a 10 Ft. utility easement.
8. Provide a 1" minimum "K" copper water service tap to the new building along with a new 6" sanitary sewer lateral (SDR 35 or SCH 40) to the existing 8" sewer main. Maintain a min 2% slope on sewer lateral to the building and indicate on plans.
9. Water meter to be located inside building with remote reader.
10. Based upon future plan, how will the water and sewer laterals reach future buildings? Should an 8" water main and 8" sewer main be installed in the middle of the property to provide the laterals? Each new building will require a separate water and sewer lateral.
11. Provide side yard swale slope information into basin with spot elevations.
12. Label storm structures on plan view.
13. Provide a 5 foot wide sidewalk along the frontage, including through the 7" concrete driveway apron, with a 2 foot tree lawn.
14. Provide details for the emergency overflow for detention basin.
15. Identify benchmark.
16. Detention calculation currently under review.
17. Dimension the parking lot stalls; to be min 9 feet wide by 18 feet long.
18. Provide building setbacks on plans (measured from overhang).
19. Provide rip-rap details at all storm sewer outlets, and clearly state the headwall locations.
20. Provide proposed contours in parking/drive aisle and spot elevations throughout.
21. Clearly show the limits of the curbing for the parking lot and drive aisle.
22. Provide roof drain invert at detention basin and slope information.
23. Provide details that show the existing curb and gutter along SR 73 to be removed and replaced with ODOT type 2 depressed curb and gutter. Provide 7" concrete apron and sidewalk details.
24. Verify the location of the building on C-2.0 Layout Plan on the 70 foot dimensional arrow.
25. Final revised and approved site plan shall be submitted to include all comments by staff and planning commission to have signature of the owner or duly authorized officer and stamped certified by a professional engineer.
26. An "As Built" drawing showing as built location and elevations of all improvements shall be submitted prior to the issuance of an occupancy permit.
27. The Clearcreek Fire District has no comments at this time.

The information contained in this report is based on material provided to the City of Springboro as of Thursday, September 2, 2021 at 12:00 p.m.

BC³D
DESIGN

FOREIGN EXCHANGE #5, LLC
SPRINGBORO LOCATION
95 W. CENTRAL AVE.
SPRINGBORO. OH 45066
WARREN COUNTY

7/23/2021 12:37:14 PM

GENERAL NOTES:

1) ALL CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH CITY OF SPRINGBORO AND WARREN COUNTY, OHIO DESIGN CRITERIA.

2) CONTRACTOR MUST SECURE ALL NECESSARY PERMITS PRIOR TO STARTING WORK.

3) CONTRACTOR SHALL PROTECT ALL BOUNDARY MONUMENTATION DURING CONSTRUCTION. DAMAGED MONUMENTS WILL BE REPLACED AT CONTRACTORS EXPENSE.

4) WITHIN 2 WEEKS OF STARTING CONSTRUCTION, THE CONTRACTOR SHALL FIELD VERIFY THE ELEVATIONS OF ALL EXISTING UTILITIES CROSSING WITH THE PROPOSED CONSTRUCTION AND ADVISE THE ENGINEER IN WRITING OF FIELD CONDITIONS.

5) PRIOR TO ORDERING MATERIALS WHICH WILL CONNECT TO EXISTING UTILITIES, THE CONTRACTOR SHALL FIELD VERIFY THE UTILITIES', SIZE, INVERT, ELEVATION AND MATERIAL TYPE TO ENSURE COMPATIBILITY OF MATERIALS. DOCUMENTATION OF FIELD INFORMATION SHALL BE PROVIDED TO THE ENGINEER AS A PART OF THE SHOP DRAWING SUBMITTAL.

6) CONTRACTOR WILL COORDINATE BUILDING DIMENSIONS WITH THE ARCHITECTURAL DOCUMENTS. SHOULD THE BUILDING DOCUMENTS DIFFER FROM THE SITE DOCUMENTS THE ARCHITECTURAL DOCUMENTS WILL GOVERN.

7) FIELD TILE – SHOULD FIELD TILE BE ENCOUNTERED DURING CONSTRUCTION, THE CONTRACTOR SHALL REPLACE THE TILE. WITHIN THE DEDICATED ROAD RIGHT-OF-WAY, THE CONTRACTOR SHALL REPLACE WITH STEEL REINFORCED CONCRETE PIPE (ASTM C-76, CL. 4) OR DUCTILE IRON PIPE (ANSI CLASS 52) AT THE DIRECTION OF THE CITY/COUNTY ENGINEER INSPECTOR. ANY FIELD TILE ENCOUNTERED SHALL BE LOCATED AND IDENTIFIED ON "AS-BUILT" PLANS BY THE CONTRACTOR.

8) EXISTING UNDERGROUND UTILITIES AND SERVICES ARE SHOWN IN THEIR APPROXIMATE LOCATIONS ACCORDING TO THE BEST INFORMATION AVAILABLE. THE LOCATIONS ARE INTENDED ONLY AS A GUIDE AND CANNOT BE GUARANTEED ACCURATE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR;

A. CONTACTING THE INDIVIDUAL UTILITY OWNERS FOUR CALENDER DAYS PRIOR TO CONSTRUCTION AND ADVISING THEM OF THE WORK TO TAKE PLACE (OUPS PHONE NO. 1-800-362-2764).

B. SOLICITING THEIR AID IN LOCATING AND PROTECTING ANY UTILITY WHICH MAY INTERFERE WITH CONSTRUCTION.

C. EXCAVATING AND VERIFYING THE HORIZONTAL AND VERTICAL LOCATION OF EACH UTILITY EXTENSION OR CROSSING.

9) ALL SANITARY SEWER CONSTRUCTION SHALL COMPLY WITH LOCAL JURISDICTIONAL RULES AND REGULATIONS.

10) SANITARY MANHOLES SHALL BE PRECAST CONCRETE OR MONOLITHIC, CONSTRUCTED OF CLASS "A" 4,000 PSI CONCRETE, AND CONFORMING TO ASTM C-478. ONE INCH ALUMINUM BAR STEPS ARE REQUIRED.

11) JOINTS BETWEEN PRECAST SANITARY MANHOLE SECTIONS SHALL CONFORM TO ASTM C-443.

12) CHANNEL BOTTOMS OF ALL SANITARY MANHOLES AND STORM DRAINAGE STRUCTURES.

13) SANITARY SEWER PIPE AND FITTINGS SHALL BE PER LOCAL JURISDICTIONAL RULES AND REGULATIONS OR PVC SDR 35, ASTM D-3034 AS PERMITTED.

14) THE CONTRACTOR SHALL NOT MAKE ANY PHYSICAL CONNECTION TO THE EXISTING SANITARY SEWER UNTIL THE LOCAL SEWER DEPARTMENT HAS BEEN NOTIFIED AND THE REMAINING SEWER, EXCLUDING THE FIRST SPAN, HAS BEEN INSPECTED, TESTED, AND RELEASED.

15) ROOF DRAINS, FOUNDATION DRAINS OR OTHER CLEAN WATER CONNECTIONS TO THE SANITARY SEWER SYSTEM ARE PROHIBITED.

16) WATER MAINS SHALL BE INSTALLED WITH 4'-6" MINIMUM COVER.

17) WHENEVER A SANITARY SEWER AND WATER MAIN MUST CROSS, THE SEWER SHALL BE AT SUCH AN ELEVATION THAT THE CROWN OF THE SEWER IS AT LEAST 18 INCHES MEASURED BETWEEN THE OUTSIDE PIPE WALLS, BELOW THE BOTTOM OF THE WATER MAIN. IF IT IS ABSOLUTELY IMPOSSIBLE TO MAINTAIN THE 18 INCH VERTICAL SEPARATION, THE WATER MAIN SHALL BE RELOCATED OR THE SEWER SHALL BE CONSTRUCTED AS FOLLOWS:

- A. A SEWER PASSING OVER OR UNDER THE WATER MAIN SHALL BE CONSTRUCTED OF MATERIALS THAT ARE EQUIVALENT TO WATER MAIN STANDARDS OF CONSTRUCTION FOR A MINIMUM DISTANCE OF 10 FEET ON EACH SIDE OF THE WATER MAIN.
- B. THE SEWER CROSSING SHALL BE CONSTRUCTED SO THAT THE SEWER JOINTS WILL BE EQUIDISTANT AND AS FAR AS POSSIBLE FROM THE WATER MAIN JOINTS.
- C. WHERE A WATER MAIN PASSES UNDER A SEWER, ADEQUATE STRUCTURAL SUPPORT SHALL BE PROVIDED FOR THE SEWER TO PREVENT DAMAGE TO THE WATER MAIN.

18) SIDE SLOPES GREATER THAN 3:1 WILL BE SODDED OR STABILIZED WITH AN EROSION CONTROL BLANKET BY THE SITE CONTRACTOR. THE EROSION CONTROL BLANKET SHALL BE NORTH AMERICAN GREEN SC TYPE 150 OR AN ENGINEER APPROVED EQUAL.

19) ALL DISTURBED AREAS SHALL HAVE TEMPORARY SEEDING AND MULCHING WITHIN TWO WEEKS.

20) PROPER TRANSITION TO BE PROVIDED FROM END OF PROPOSED STORM SEWERS, DITCHES, ROADWAY, ETC. TO EXISTING GRADE.

21) SEDIMENT AND EROSION CONTROL FEATURES SHOWN ON THE PLAN CAN BE ADJUSTED AND/OR MODIFIED TO FIT EXISTING CONDITIONS BY CITY/COUNTY ENGINEER AND/OR INSPECTOR.

22) RESTORATION OF DISTURBED AREAS OUTSIDE OF THE CONSTRUCTION LIMITS IS THE RESPONSIBILITY OF THE CONTRACTOR.

Foreign Exchange #5, LLC

95 W. Central

Springboro, Ohio

PART OF

Section No. 13, Town 2, Range 5

City of Springboro

Warren County, OH

INDEX

C-0.0.....	INDEX PLAN
C-1.0.....	EXISTING AND DEMOLITION PLAN
C-2.0.....	LAYOUT PLAN
C-3.0.....	GRADING & UTILITY PLAN
C-5.0.....	LANDSCAPE PLAN
SWP3.1.....	EROSION CONTROLPLAN
SWP3.2.....	EROSION CONTROLPLAN



NOTE!

EXISTING UNDERGROUND UTILITIES AND SERVICES ARE SHOWN IN THEIR APPROXIMATE LOCATIONS ACCORDING TO THE BEST INFORMATION AVAILABLE. THE LOCATIONS SHOWN ARE INTENDED ONLY AN A GUIDE AND CANNOT BE GUARANTEED ACCURATE. NOTIFY THE FOLLOWING 48 HOURS PRIOR TO CONSTRUCTION TO FIELD LOCATE UTILITIES.



Location Map



State Map

No.	DATE	ISSUED	REV.
1	08-20-21	PLANNING COMMISSION REVIEW	-
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SEAL:



Claude Harden

DATE: 08-20-21

Seal not official unless Signed

Calibre Engineering

10534-B Success Lane
Centerville, OH 45458
937.885.9380
CalibreEng@aol.com



Foreign Exchange #5, LLC

95 W. Central
City of Springboro
Warren County, Ohio

Dryden Builders
1741 Thomas Paine Parkway
Centerville, Ohio
937-439-2728

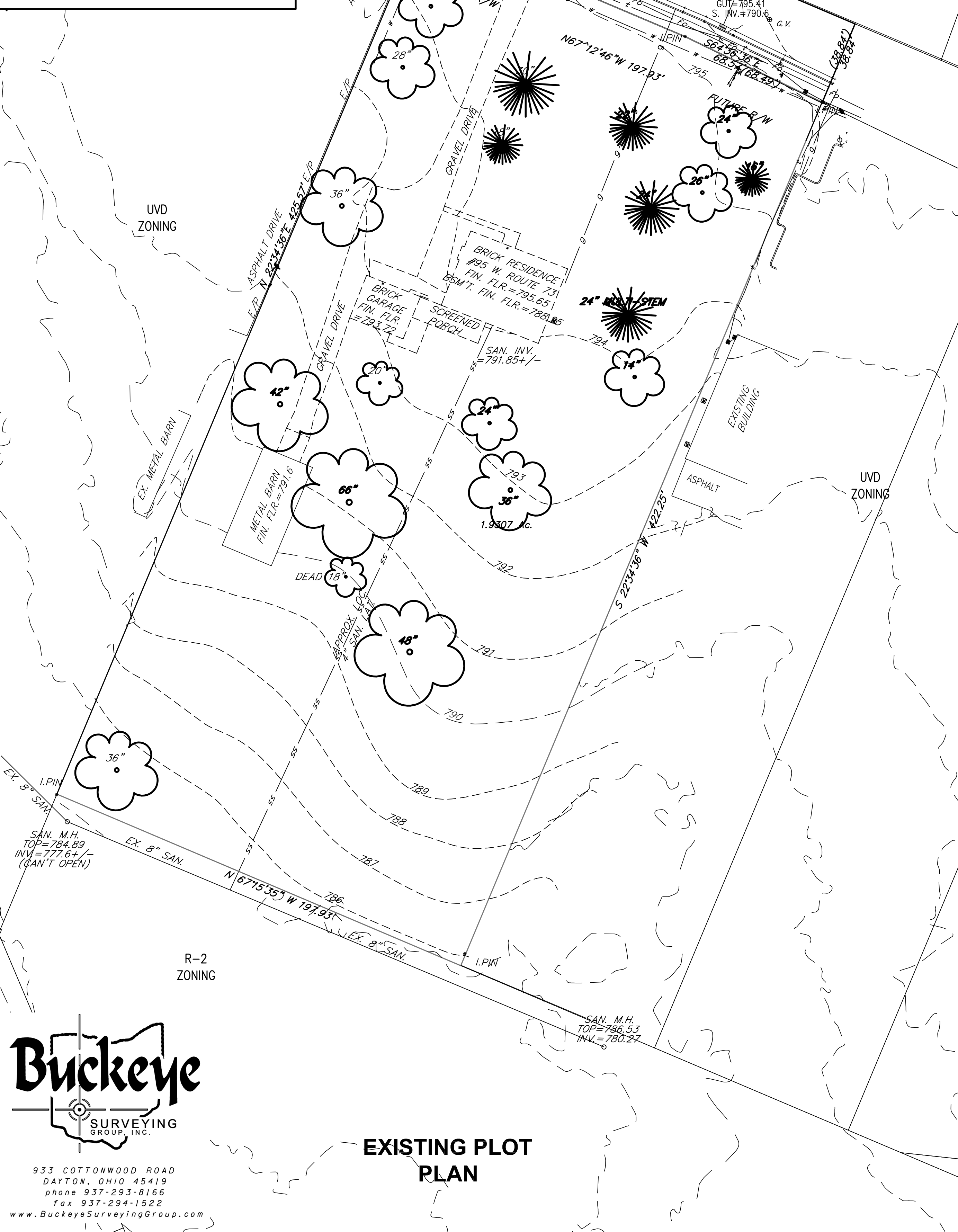
CP-0.0
INDEX
PLAN

Legal Description Based on Deed of Record

Situated in the State of Ohio, County of Warren, City of Springboro and in the Township of Clearcreek and being part of Section No. 13, Town 2, Range 5, and bounded and described as follows:

Beginning at a point in the center of the Springboro and Franklin Pike, State Route 73, said beginning point being S. 68°15' E., 303 feet from the original northwest corner of the lands of the grantor herein; thence with the center of State Route No. 73, S. 67°48' E., 198 feet to a point, witness a stake bears S. 22°14' W., 40 feet; thence on new division lines as follows: (1) S. 22°14' E., 462 feet to a stake; (2) N. 67°48' W., 198 feet to a stake (3) N. 22°14' E., 462 feet to the place of beginning, containing two and eighteen hundredths (2.18) acres, subject to all legal highways. Prior Instrument Reference: Book 1941, Page 296 of the Warren County Deed Records. **PARCEL NO. 04-13-229-006**

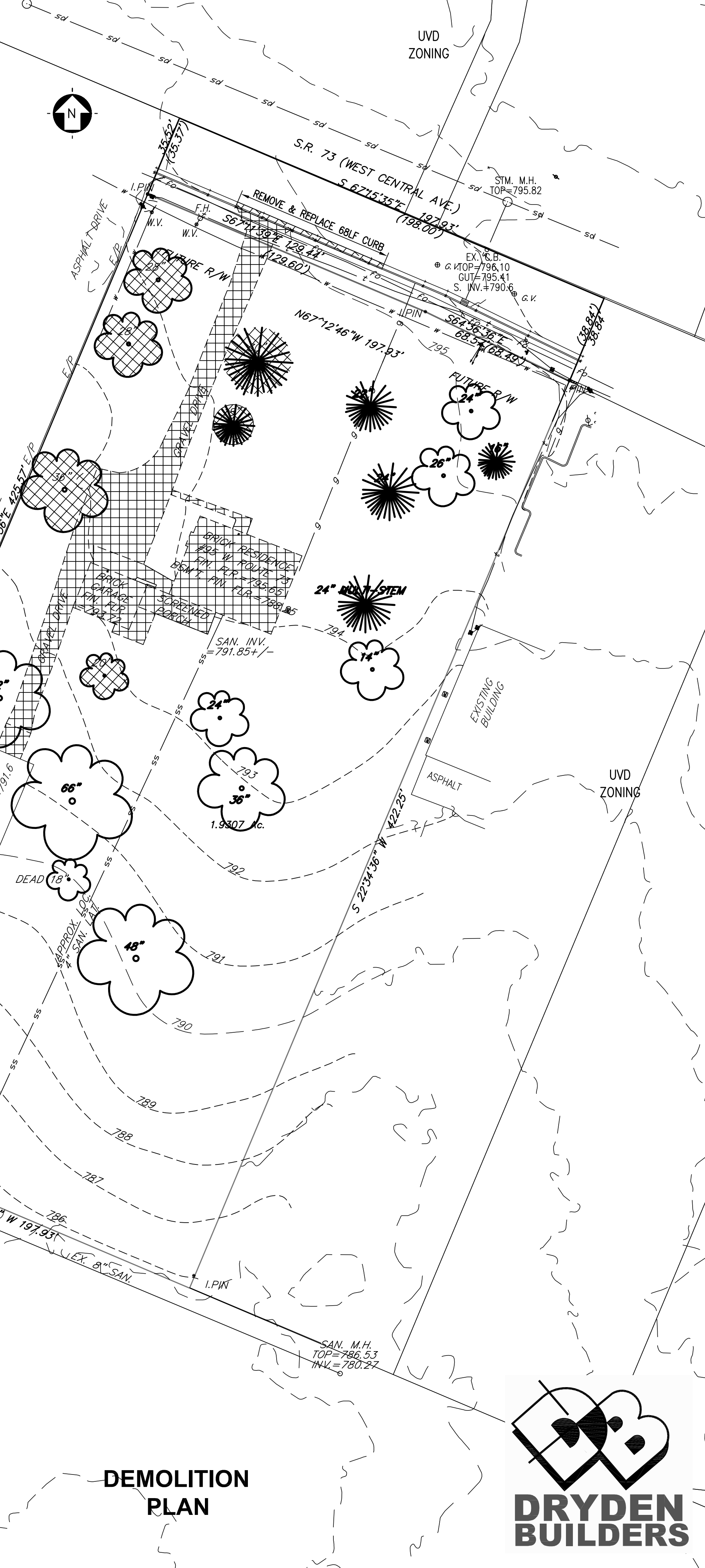
UVD ZONING



Buckeye
SURVEYING
GROUP, INC.
933 COTTONWOOD ROAD
DAYTON, OHIO 45419
phone 937-293-9166
fax 937-294-1522
www.BuckeyeSurveyingGroup.com

EXISTING PLOT
PLAN

STM. M.H.
TOP=792.51



DEMOLITION
PLAN

**DRYDEN
BUILDERS**

NOTES:
TOPOGRAPHIC FEATURES SHOWN HEREON ARE FROM AN ACTUAL FIELD SURVEY OF THE PREMISES PERFORMED DURING JULY 2021, AND WILL NOT REFLECT ANY CHANGES TO THE PHYSICAL SITE THROUGH MAN-MADE OR NATURAL OCCURRENCES BEYOND SAID DATE.

THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. PIPE SIZE AND MATERIAL HAS BEEN DERIVED FROM FIELD OBSERVATION AND EXISTING PLAN INFORMATION PROVIDED TO THE SURVEYOR. SURVEY PERSONNEL HAVE NOT ENTERED UTILITY STRUCTURES TO VERIFY PIPE SIZE DATA BY ACTUAL MEASUREMENT. THE SURVEYOR MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN-SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH THE SURVEYOR DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES.

BOUNDARY INFORMATION IS BASED ON RECORD DATA. CONTOURS OUTSIDE OF THE PROPERTY LIMITS ARE BASED ON NON WARREN COUNTY, OHIO GIS DATA.

**2 WORKING DAYS
BEFORE YOU DIG
CALL TOLL FREE
800-362-2764 or 811
OHIO UTILITIES PROTECTION SERVICE**

LEGEND

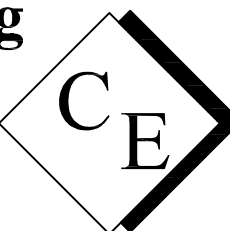
SURVEY CONTROL & TOPOGRAPHIC SYMBOLS	
WATER VALVE	MAG NAIL SET
FIRE HYDRANT	PK NAIL FOUND
STORM MANHOLE	MONUMENT BOX FOUND
CURB INLET	IRON PIN FOUND
CATCH BASIN	IRON PIN TO BE SET
SIGNAL POLE	WATER MAIN
TELEPHONE MANHOLE	SANITARY SEWER
SANITARY MANHOLE	STORM SEWER
SIGNS	ELECTRIC LINES
	GAS MAIN

SCALE:
0 30 60 120
SCALE 1"= 30'

No.	DATE	ISSUED	REV.
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SEAL:
STATE OF OHIO
CLAUDE
A. HARDEN
53021
PROFESSIONAL ENGINEER
DATE:
Seal not official unless Signed

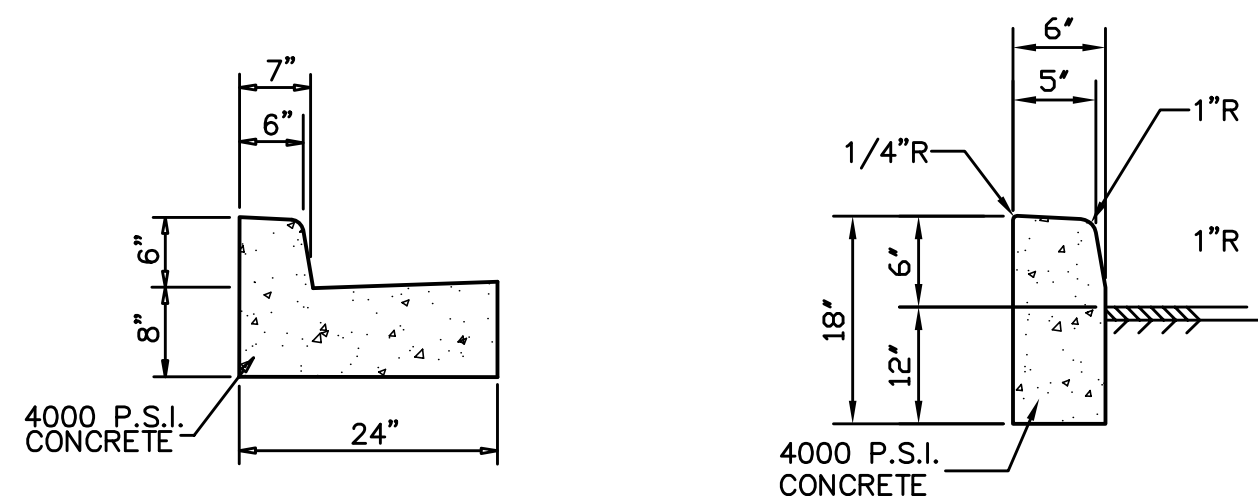
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C-1.0
EXISTING & DEMOLITION
PLAN

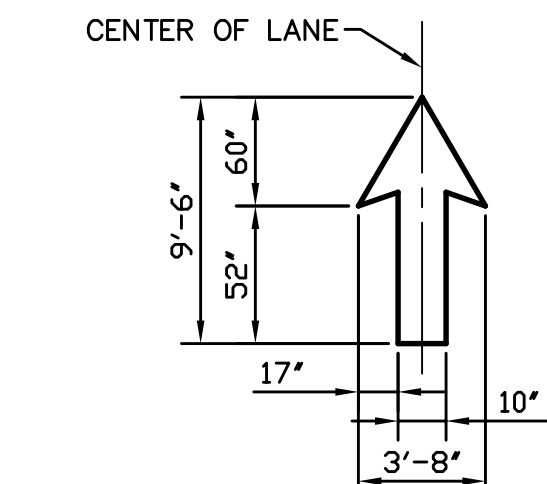
PROJECT NO: 2021115 AUG 20, 2021



CONCRETE CURB AND GUTTER
 NOTE: EXPANSION JOINTS REQUIRED AT 60' MAXIMUM SPACING OR AT ALL BUTT JOINTS TO EXISTING CONCRETE, CURB RETURNS. CONTROL JOINTS SHALL BE CREATED AT 10' O.C. ADDITIONAL JOINTS AS DIRECTED BY THE CONSTRUCTION MANAGER AND/OR ENGINEER.

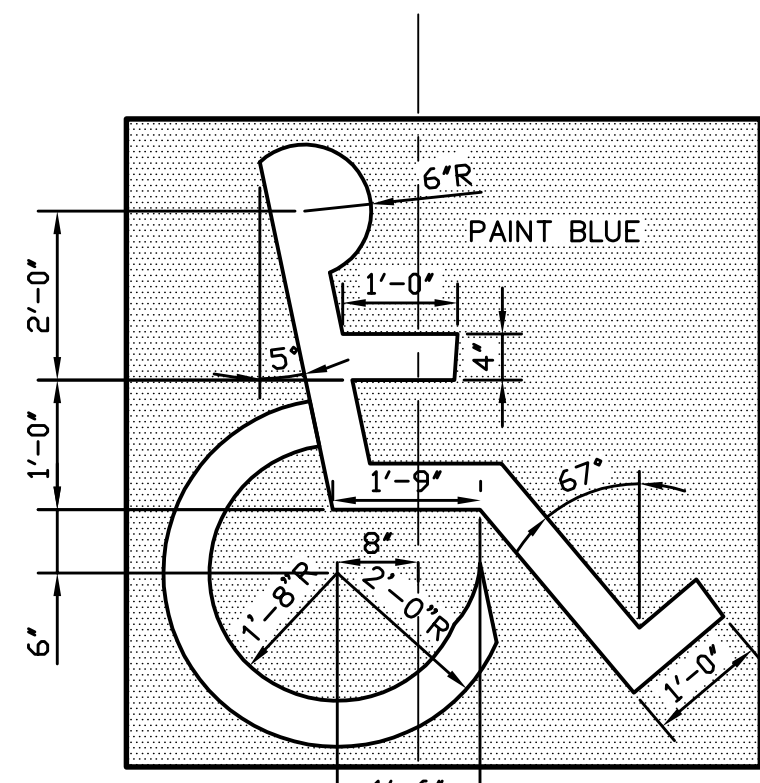
CONCRETE CURB DETAILS

NTS



ARROW DETAILS

NTS



NOTE: SYMBOL TO BE PAINTED IN ALL HANDICAPPED SPACES DENOTED ON PLANS.

INTERNATIONAL HANDICAP SYMBOL

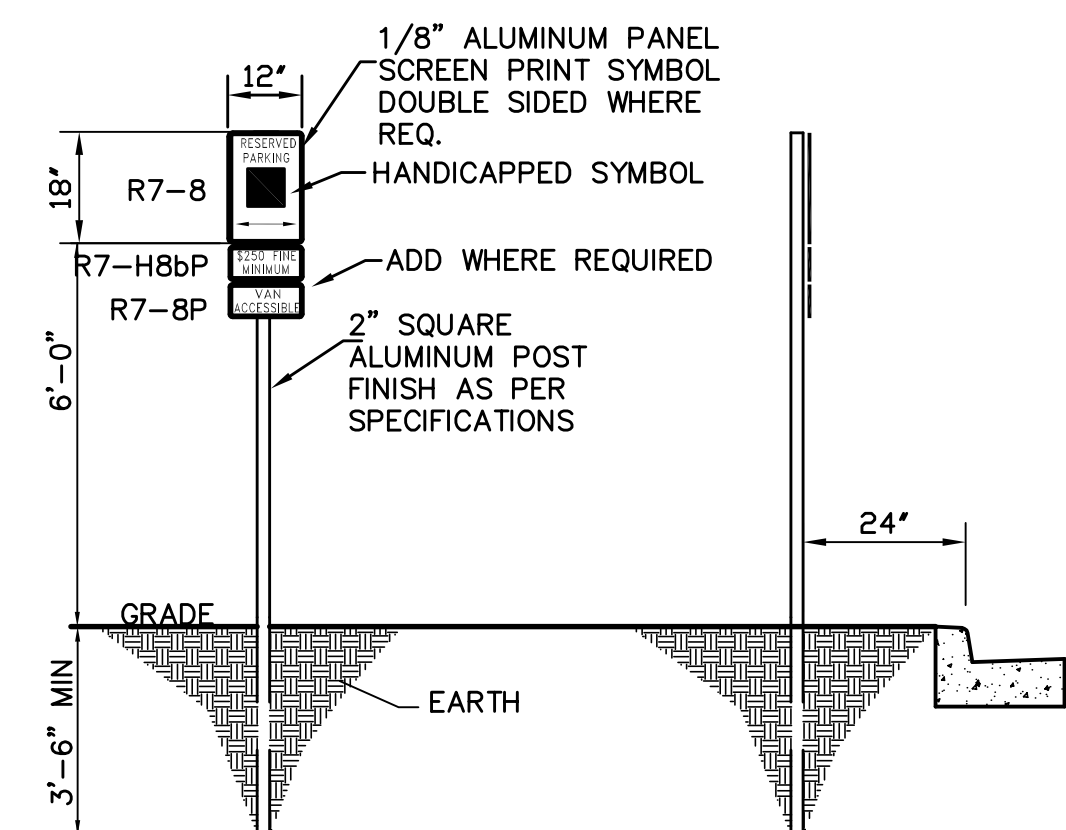
NTS

- 1 SUBGRADE COMPACTION
- 2 ITEM 304 ~ AGGREGATE BASE (6" LD/8" HD)
- 3 ITEM 448 ~ ASPHALTIC CONCRETE (1.5" COURSE LD, 2.5" HD)
- 4 ITEM 407 ~ TACK COAT @ 0.10 GAL/SY
- 5 ITEM 448 ~ ASPHALTIC CONCRETE, 1.5" COURSE

NOTES:

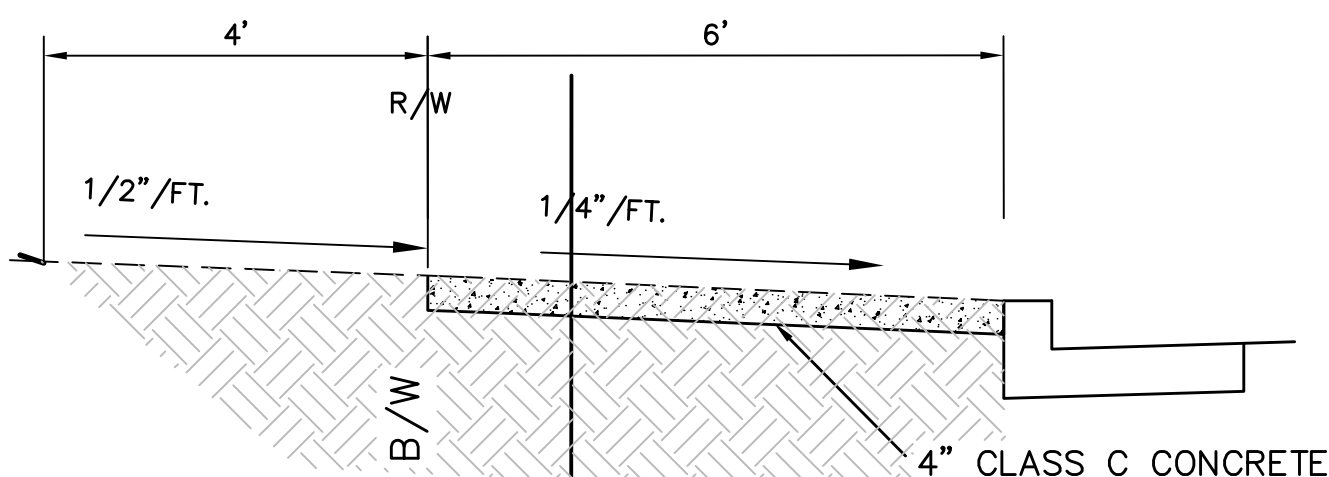
1. ALL ITEM NUMBERS REFER TO STATE OF OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIALS SPECIFICATIONS, 2013 EDITION OR LATEST REVISION THEREOF.
2. CONTRACTOR SHALL SUBMIT A MIX DESIGN FOR ENGINEERING REVIEW AND RECEIVE APPROVAL PRIOR TO PAVING.
3. THE SURFACE FOR ALL TYPES CAN BE COMPLETED AT THE SAME TIME. ALL PAVEMENT JOINTS SHALL BE SQUARE WITHOUT FEATHERING.

LIGHT DUTY/HEAVY DUTY PAVEMENT MATCH-UP

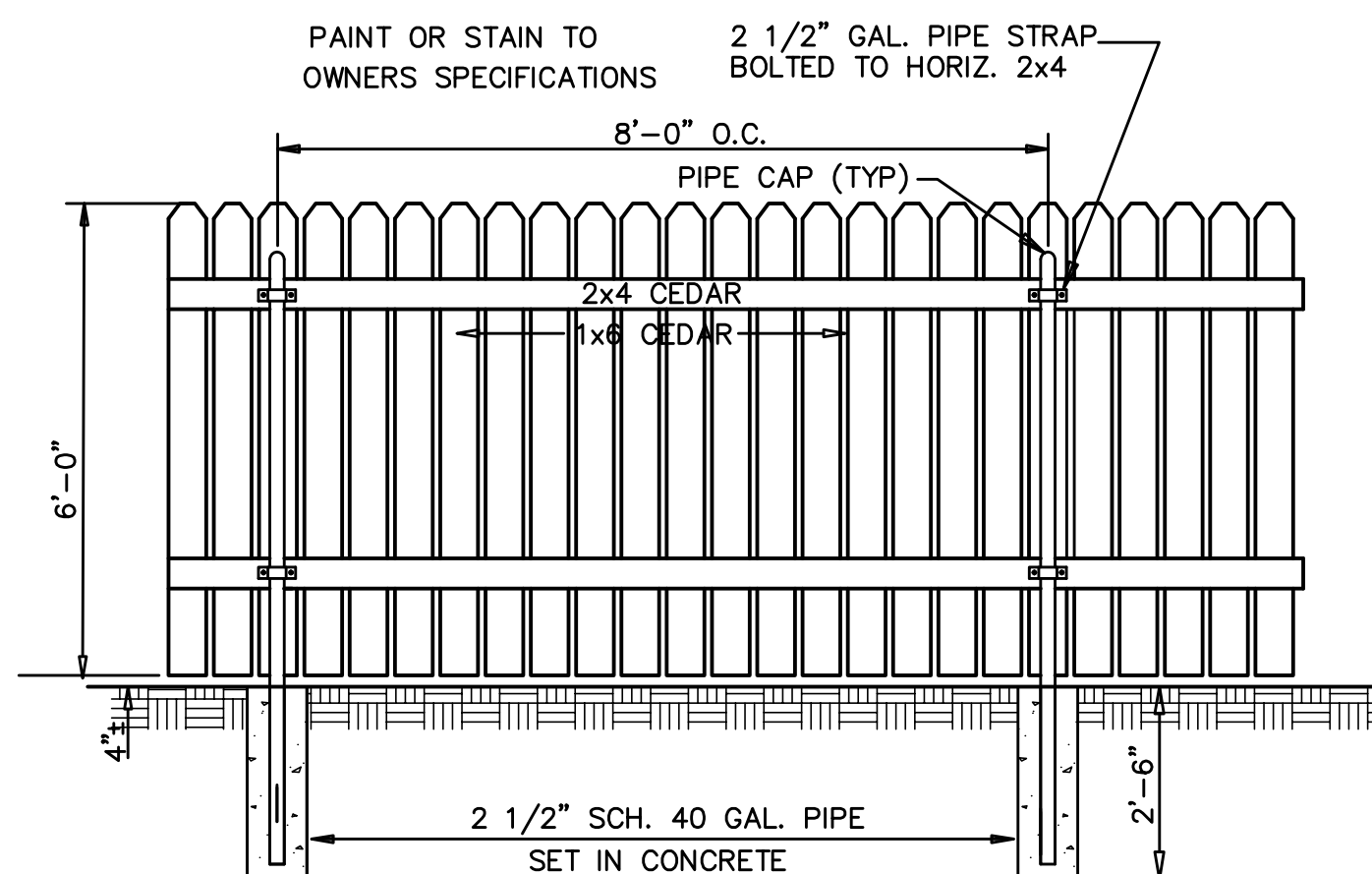


HANDICAPPED PARKING SIGN

FOR INSTALLATION BEHIND CURB
 NTS



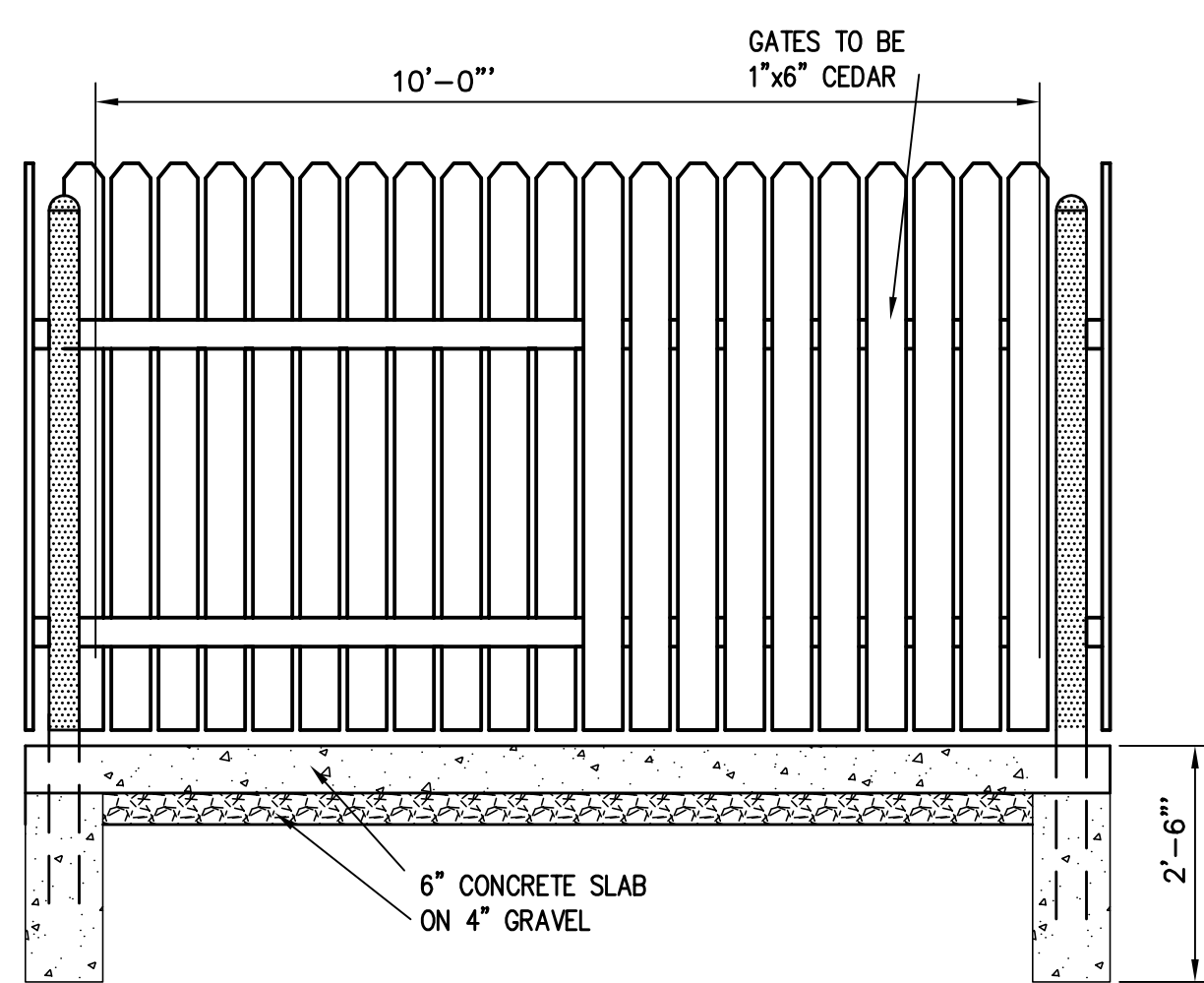
TYPICAL SIDEWALK SECTION



NOTE: FENCE SHALL BE SOLID WESTERN OR MICHIGAN WHITE CEDAR AS MANUFACTURED BY CEDARLINE NATURAL FENCING OR EQUAL. ALL NAILS AND FASTENERS SHALL BE GALVANIZED.

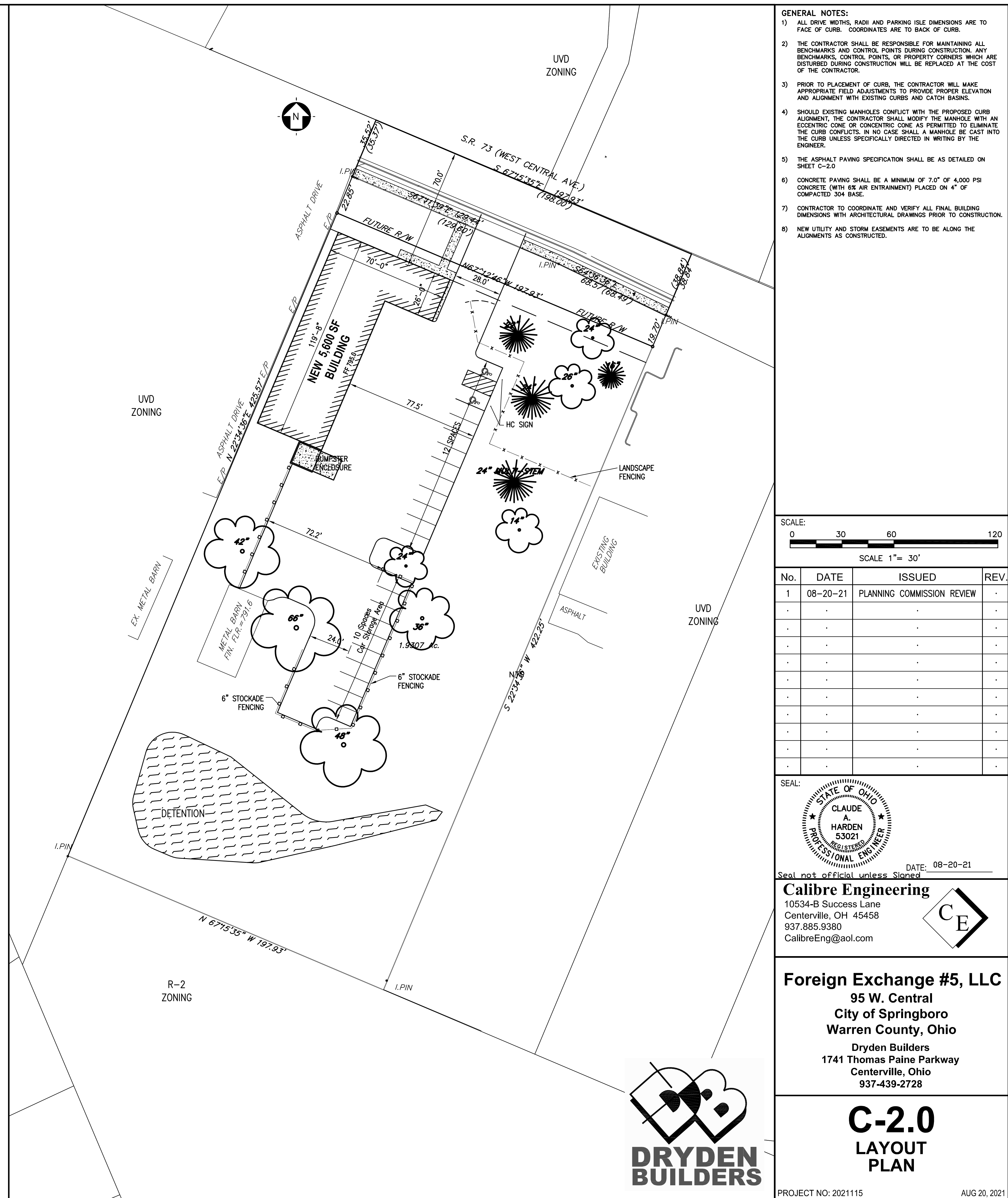
SROCKADE SOLID CEDAR FENCE

NTS

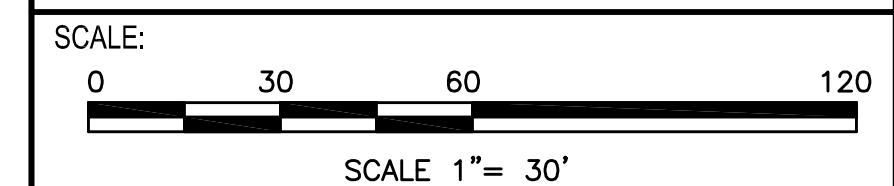


DUMPSTER ENCLOSURE

NTS



- GENERAL NOTES:**
- 1) ALL DRIVE WIDTHS, RADII AND PARKING ISLE DIMENSIONS ARE TO FACE OF CURB. COORDINATES ARE TO BACK OF CURB.
 - 2) THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL BENCHMARKS AND CONTROL POINTS DURING CONSTRUCTION. ANY BENCHMARKS, CONTROL POINTS, OR PROPERTY CORNERS WHICH ARE DISTURBED DURING CONSTRUCTION WILL BE REPLACED AT THE COST OF THE CONTRACTOR.
 - 3) PRIOR TO PLACEMENT OF CURB, THE CONTRACTOR WILL MAKE APPROPRIATE FIELD ADJUSTMENTS TO PROVIDE PROPER ELEVATION AND ALIGNMENT WITH EXISTING CURBS AND CATCH BASINS.
 - 4) SHOULD EXISTING MANHOLES CONFLICT WITH THE PROPOSED CURB ALIGNMENT, THE CONTRACTOR SHALL MODIFY THE MANHOLE WITH AN ECCENTRIC CONE OR CONCENTRIC CONE, AS PERMITTED TO ELIMINATE THE CURB CONFLICTS. IN NO CASE SHALL A MANHOLE BE CAST INTO THE CURB UNLESS SPECIFICALLY DIRECTED IN WRITING BY THE ENGINEER.
 - 5) THE ASPHALT PAVING SPECIFICATION SHALL BE AS DETAILED ON SHEET C-2.0
 - 6) CONCRETE PAVING SHALL BE A MINIMUM OF 7.0" OF 4,000 PSI CONCRETE (WITH 6% AIR ENTRAINMENT) PLACED ON 4" OF COMPACTED 304 BASE.
 - 7) CONTRACTOR TO COORDINATE AND VERIFY ALL FINAL BUILDING DIMENSIONS WITH ARCHITECTURAL DRAWINGS PRIOR TO CONSTRUCTION.
 - 8) NEW UTILITY AND STORM EASEMENTS ARE TO BE ALONG THE ALIGNMENTS AS CONSTRUCTED.



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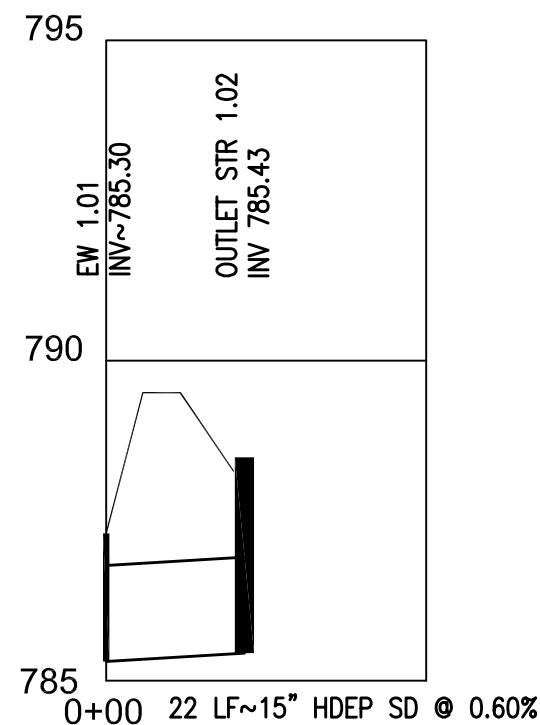
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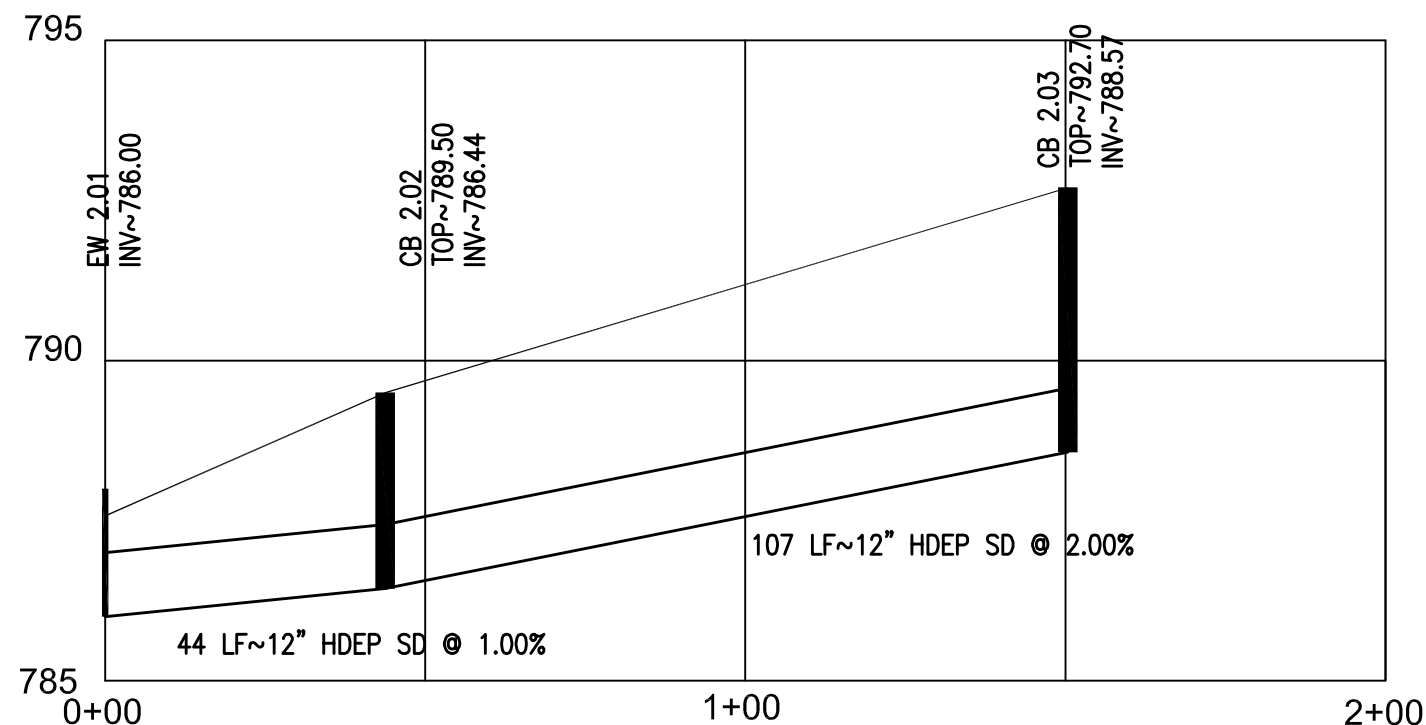
Calibre Engineering
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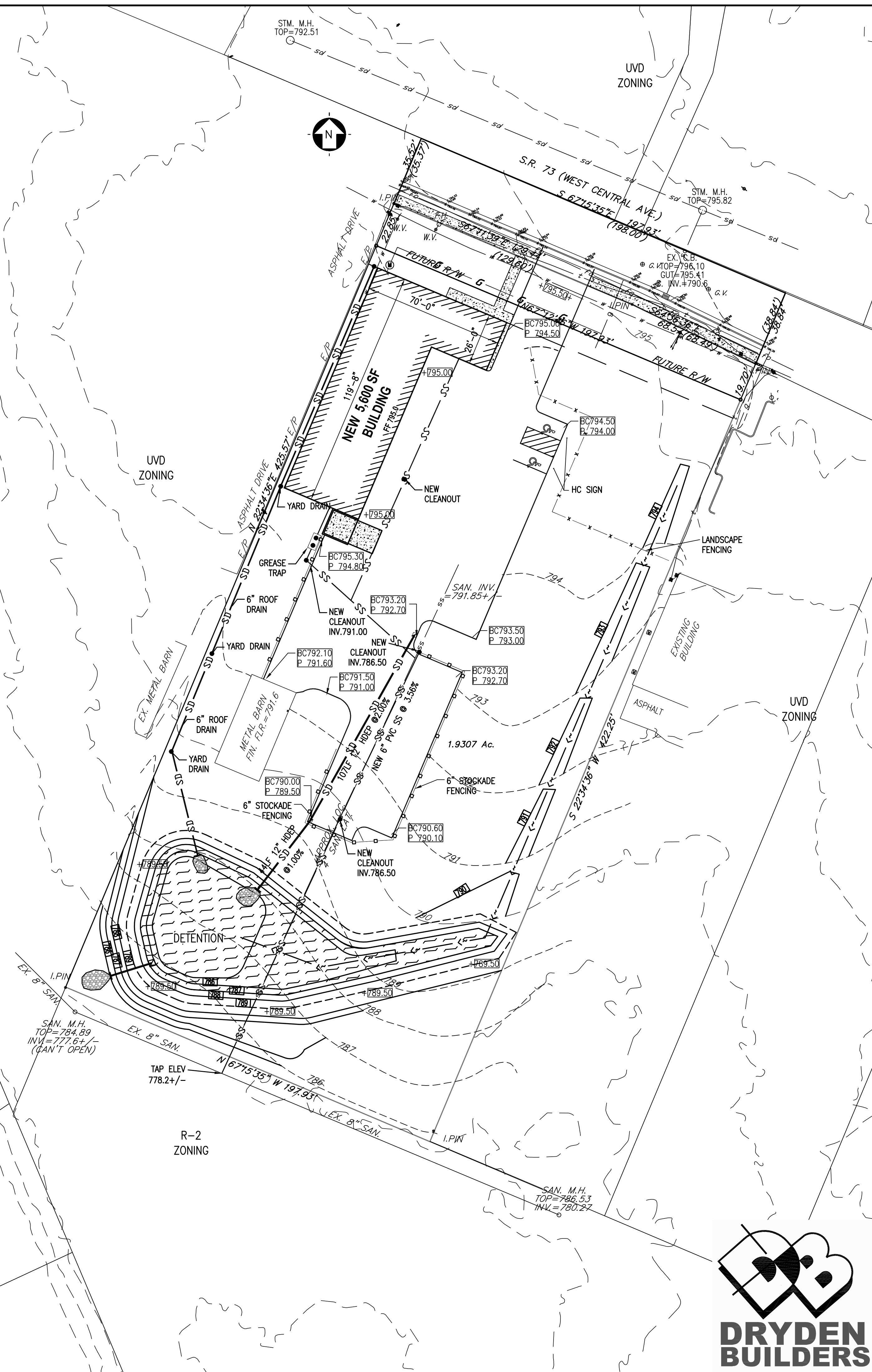
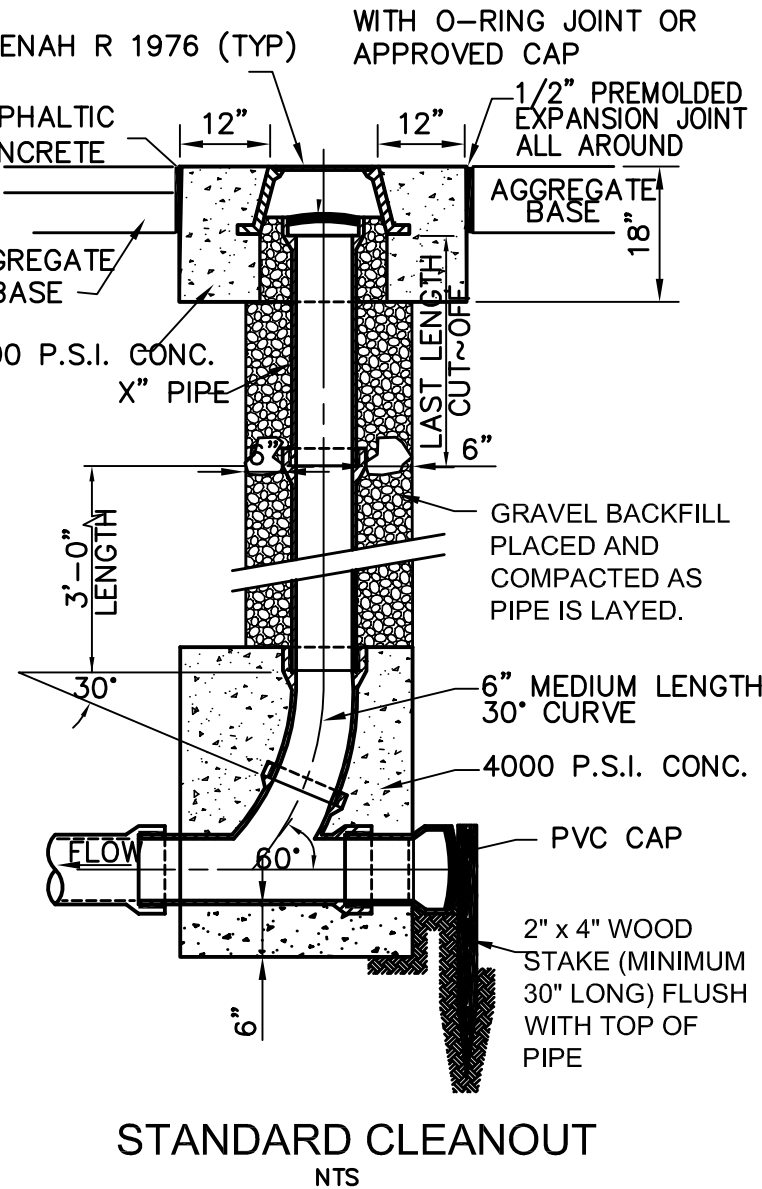
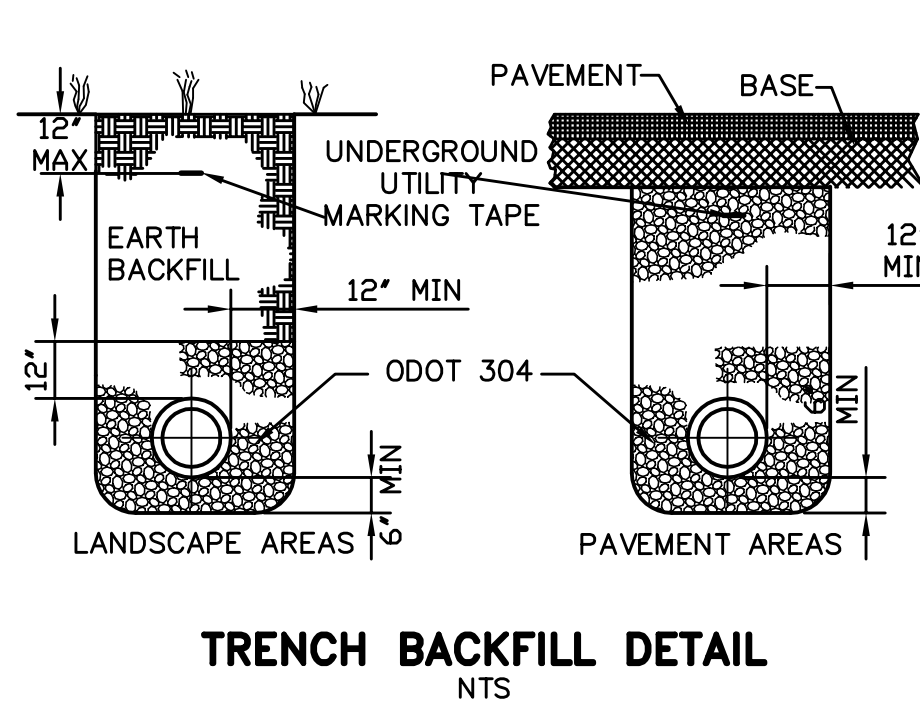
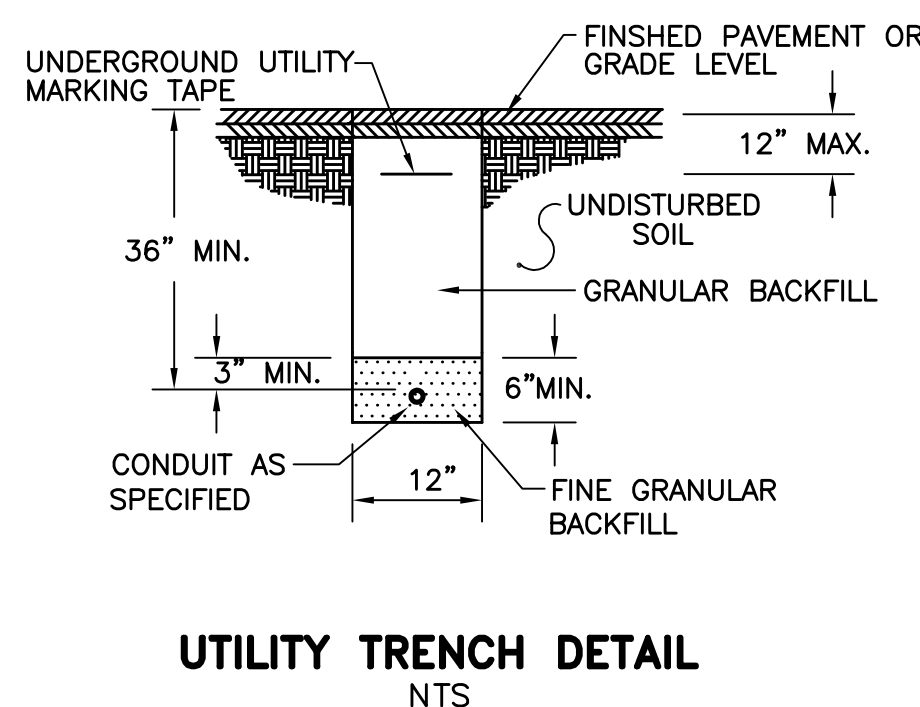
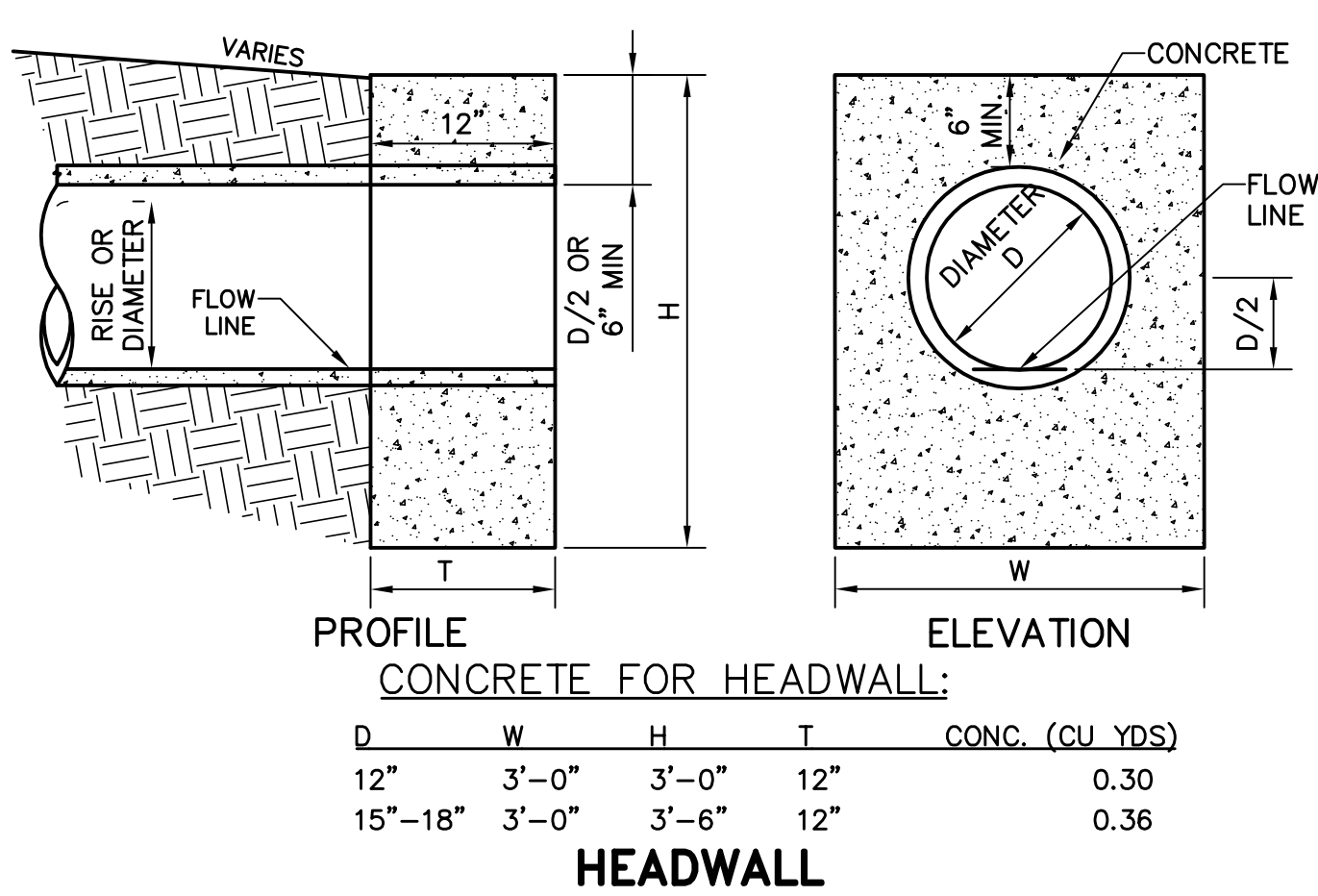
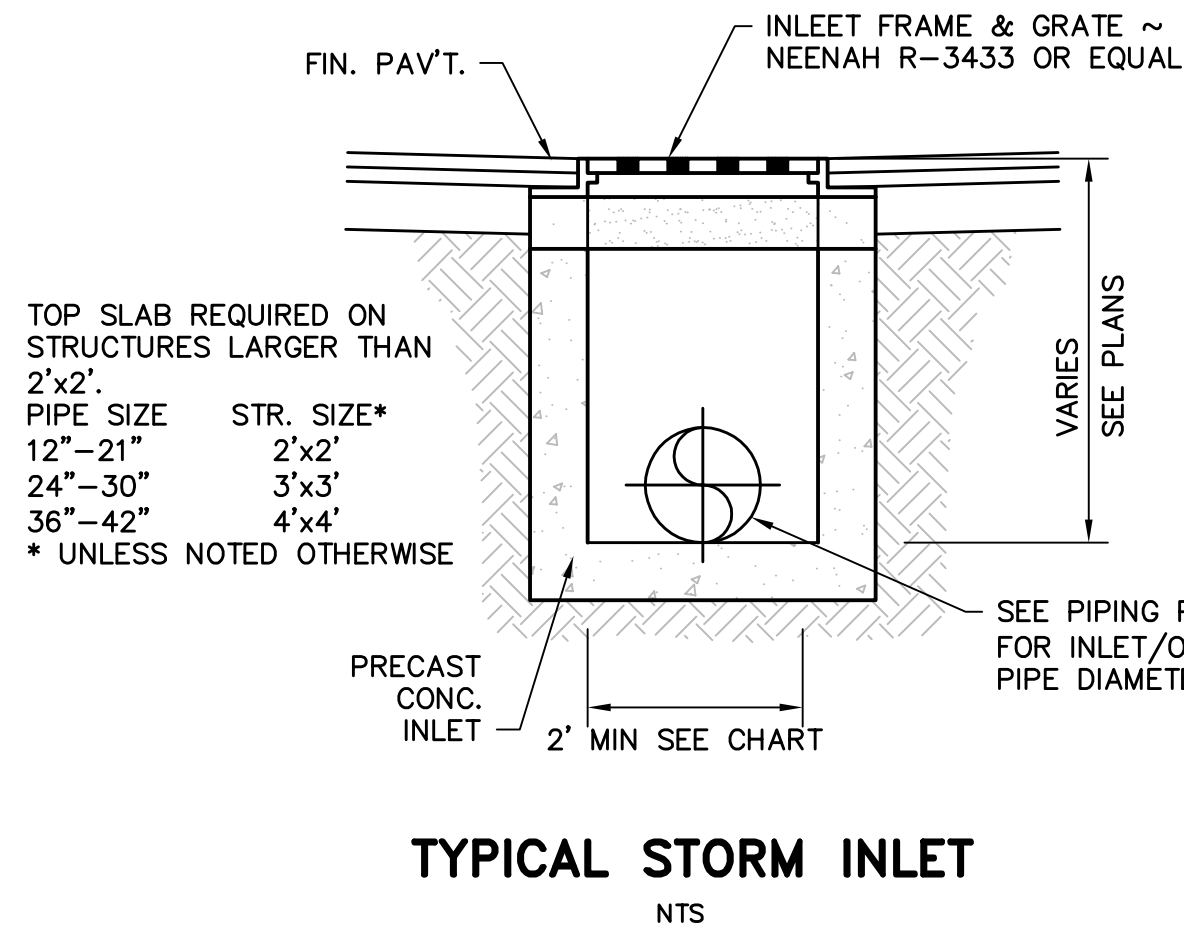
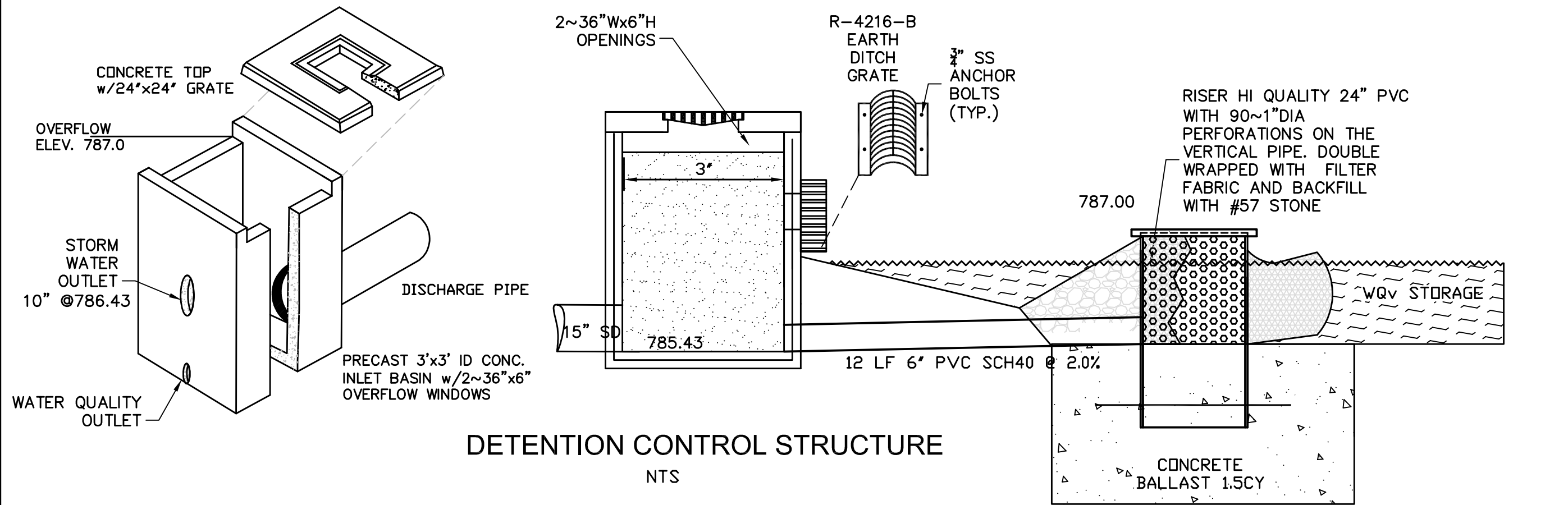
C-2.0
 LAYOUT
 PLAN



STORM LINE #1

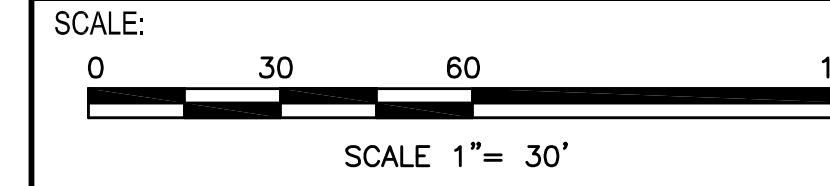


STORM LINE #2



- GRADING NOTES
- ALL FILL MATERIALS PLACED ON THE SITE, INCLUDING ALL TRENCHES AND ALL SLOPE AREAS, SHALL BE COMPACTED IN ACCORDANCE WITH THE GEOTECHNICAL ENGINEER'S RECOMMENDATIONS BUT AT A MINIMUM OF 98% OF ASTM D-698 STANDARD PROCTOR AND IN ACCORDANCE WITH THE COUNTY ENGINEERS RECOMMENDATIONS. FILL MATERIALS WILL BE TESTED BY AN INDEPENDENT GEOTECHNICAL TESTING LAB AND PAID FOR BY THE OWNER. TESTS WILL BE CONDUCTED AT A MINIMUM OF ONE PER 5,000 SF PER LIFT OR AS DIRECTED BY THE ENGINEER.
 - ALL AREAS OF THE SITE SHALL BE GRADED TO PROVIDE POSITIVE DRAINAGE.
 - THE EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO INITIAL LAND DISTURBANCE ACTIVITIES OR AS SOON AS PRACTICAL. SEDIMENT SHALL BE PREVENTED FROM DISCHARGING FROM THE PROJECT SITE BY INSTALLING AND MAINTAINING SILT FENCE, STRAW BALES, SEDIMENT BASINS, ETC. OR OTHER METHODS AS INDICATED IN THE PLANS. EROSION CONTROL DEVICES SHALL BE INSTALLED FOR ALL SITES REMAINING DISTURBED FOR MORE THAN 14 DAYS.
 - THE CONTRACTOR SHALL CONTROL WASTES, GARBAGE, DEBRIS, WASTEWATER, AND OTHER SUBSTANCES GENERATED BY CONSTRUCTION ON THE SITE. ALL WASTE MATERIAL SHALL BE DISPOSED OF IN ACCORDANCE WITH ALL STATE OR LOCAL REGULATIONS.
 - ALL ON-SITE STORM DRAIN INLETS SHALL BE PROTECTED AGAINST SEDIMENTATION WITH STRAW BALES, FILTER FABRIC, OR EQUIVALENT BARRIERS.
 - EXCEPT AS PREVENTED BY INCLEMENT WEATHER CONDITIONS, ALL DISTURBED AREAS TO REMAIN INACTIVE FOR MORE THAN 45 DAYS SHALL BE STABILIZED BY SEEDING, SODDING, MULCHING, COVERING, OR BY OTHER EQUIVALENT EROSION CONTROL MEASURES WITHIN SEVEN (7) DAYS. PERMANENT SOIL STABILIZATION SHALL BE PROVIDED WITHIN 7 DAYS AFTER FINAL GRADE IS ESTABLISHED.
 - ALL EROSION CONTROL PRACTICES SHALL BE IN ACCORDANCE WITH THE SOIL CONSERVATION SERVICE MANUAL "WATER MANAGEMENT AND SEDIMENT CONTROL FOR URBANIZING AREAS."
 - EROSION AND SEDIMENTATION CONTROLS ARE TO BE INSPECTED AT LEAST ONCE EVERY SEVEN DAYS WITHIN 24 HOURS AFTER ANY STORM EVENT GREATER THAN 0.5 INCHES OF RAIN PER 24 HOUR PERIOD.

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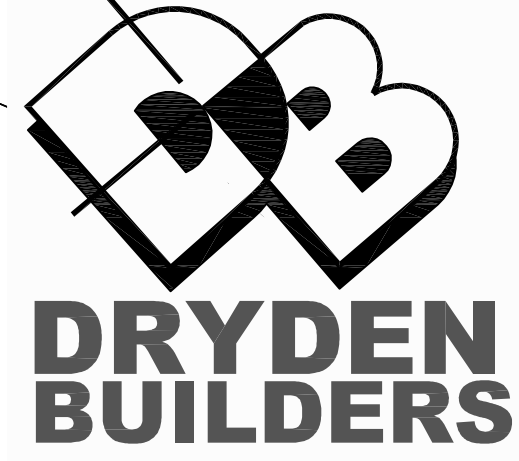
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C-3.0
GRADING & UTILITY
PLAN
PROJECT NO: 2021115 AUG 20, 2021





Picea abies



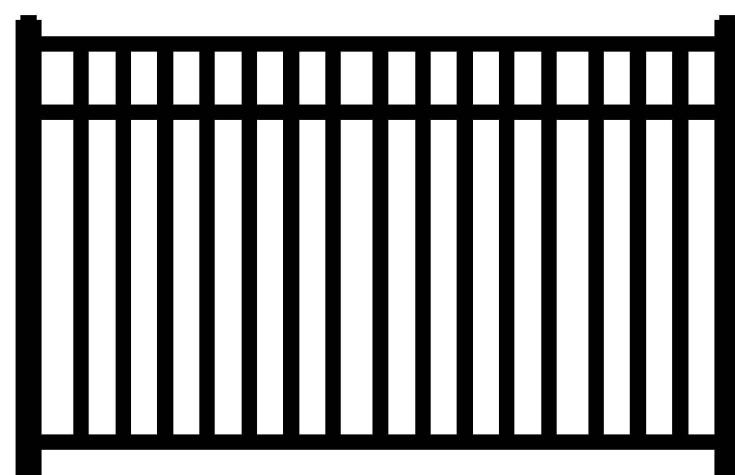
Acer 'Bloodgood'



Juniperus s. 'Monna'



Ulmus 'New Horizon'



Jerith Ornamental Aluminum Fence- 4' height
Style 202 (Black) or equivalent



Arborvitae 'Emerald Green'



Arborvitae 'Techny'



Rosa 'Knockout'



Nepeta 'Walker's Low'

CHAPTER 1280 AND SECTION 1267.09 COMPLIANCE

1280.04 (B)
TREES AT 20.01 DBH OR GREATER= 11
TREES AT 14.01-20' DBH= 1
TOTAL 47 TREES REDUCTION IN NEW TREES REQUIRED

1280.04 (C)- LANDSCAPE ADJACENT TO ROADS
FRONTAGE WIDTH (EXCLUDING DRIVE AND WALK)= 162'
-4 SHADE OR EVERGREEN TREES REQUIRED- 4 PROVIDED
-2 ORNAMENTAL TREES REQUIRED- 2 PROVIDED
-32 SHRUBS REQUIRED- 34 PROVIDED

1280 (E)(1)- PARKING LOT SCREENING
AS SHOWN ALONG NORTH PROPERTY LINE FRONTAGE

1280 (2)(A)- INTERNAL PARKING LOT LANDSCAPING
23 SPACES = 230 SF OF INTERNAL LANDSCAPE REQUIRED
312 SF PROVIDED IN THE LANDSCAPE ISLAND

1280 (2)(C)- INTERNAL PARKING REQUIRED PLANTINGS
AS SHOWN IN PLAN, INCLUDING SAVING EXISTING TREES

1280 (F)- SITE LANDSCAPING
1 TREE SHALL BE PLANTED PER 3,000 SF OF LOT= 28 TREES REQUIRED
DEDUCT 47 TREES FOR TREE PRESERVATION NET= (-19 NEW TREES REQUIRED) NO NEW TREES TREES REQUIRED, EXCEPTING TREE REQUIREMENTS FOR FRONTAGE AND LANDSCAPE ISLANDS, ETC.

1280.05- PLANTING STANDARDS
ALL STANDARDS WILL BE MET

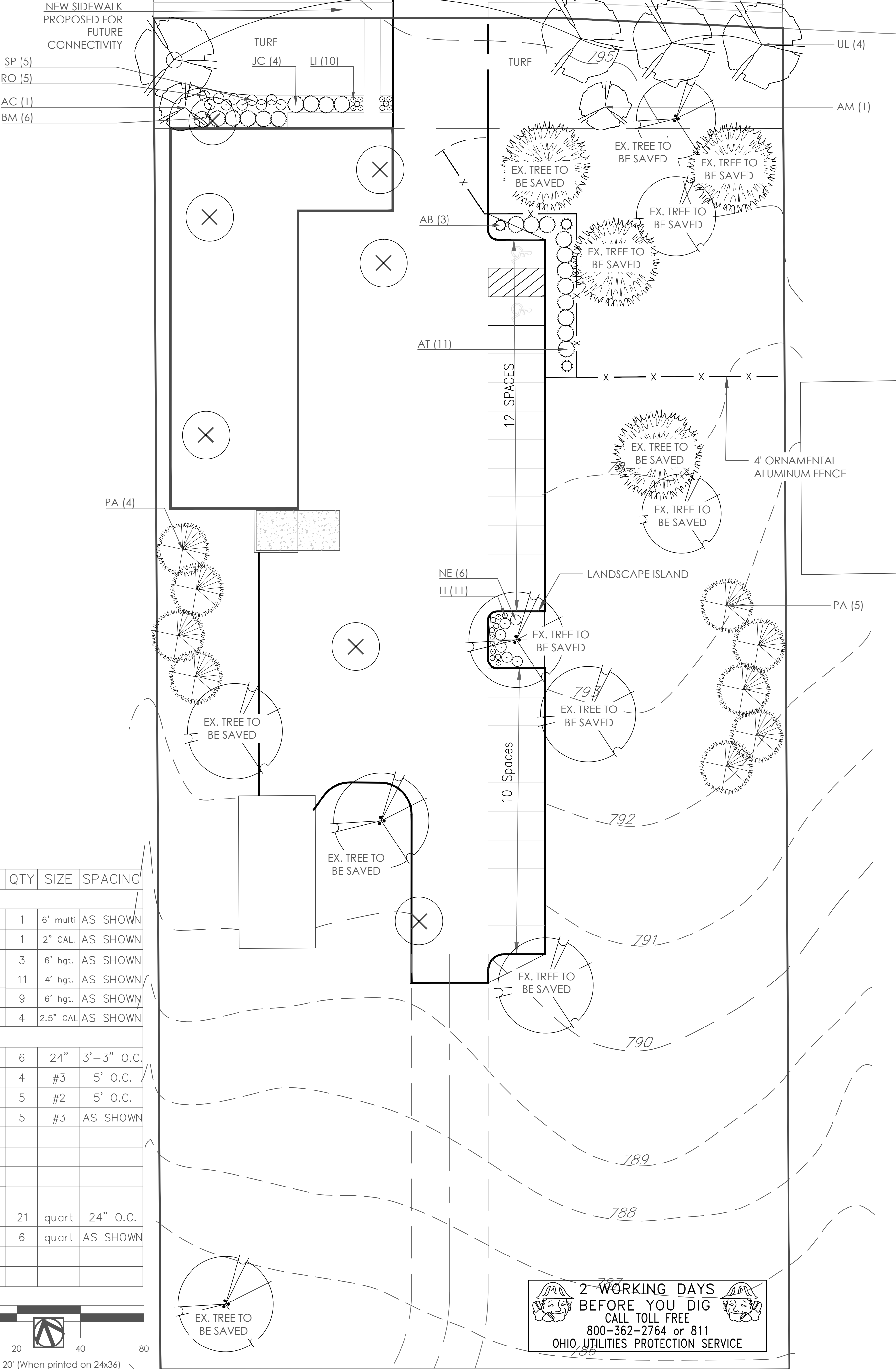
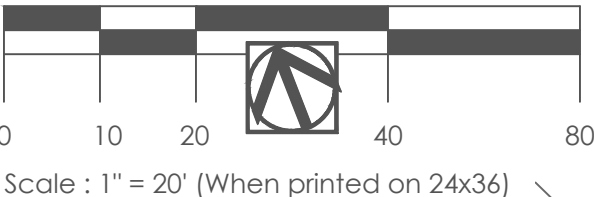
1267.09- (UVD) URBAN VILLAGE DISTRICT LANDSCAPE REQUIREMENTS

ALL OTHER UVD LANDSCAPE STANDARDS WILL BE MET.

GENERAL NOTE:
*LANDSCAPE PLAN WILL BE REVISED AND SUBMITTED TO CITY FOR APPROVAL AS NEEDED WHEN PHASE II BUILDING IS FINALIZED.

PLANT MATERIAL SCHEDULE

KEY	SCIENTIFIC NAME	COMMON NAME	QTY	SIZE	SPACING
TREES					
AM	Amelanchier 'Autumn Brilliance'	Serviceberry Clump Form	1	6' multi	AS SHOWN
AC	Acer 'Bloodgood'	Bloodgood Jap. Maple	1	2" CAL.	AS SHOWN
AB	Arborvitae 'Emerald Green'	Emerald Green Arborvitae	3	6' hgt.	AS SHOWN
AT	Arborvitae 'Techny' (Shrub)	Techny Arborvitae	11	4' hgt.	AS SHOWN
PA	Picea abies	Norway Spruce	9	6' hgt.	AS SHOWN
UL	Ulmus 'New Horizon'	New Horizon Elm	4	2.5" CAL	AS SHOWN
SHRUBS					
BM	Buxus 'Green Mountain'	Green Mountain Boxwood	6	24"	3'-3" O.C.
JC	Juniperus s. 'Monna'	Calgary Carpet Juniper	4	#3	5' O.C.
RO	Rosa 'Knockout'	Knockout Rose	5	#2	5' O.C.
SP	Spiraea x. b. 'Superstar'	Superstar Spiraea	5	#3	AS SHOWN
PERENNIALS					
LI	Liriope variegata	Variegated Liriope	21	quart	24" O.C.
NE	Nepeta 'Walker's Low'	Walker's Low Catmint	6	quart	AS SHOWN



2 WORKING DAYS
BEFORE YOU DIG
CALL TOLL FREE
800-362-2764 or 811
OHIO UTILITIES PROTECTION SERVICE

NOT FOR CONSTRUCTION

LANDSCAPE ARCHITECT OF RECORD

4 West Franklin Street
Centerville, OH 45469
937-469-4409

CLIENT:

SUBMITTALS AND REVISIONS

DATE	REVISION
07/23/2021	Preliminary Plan (For Review)
08/17/2021	Revised Plan with Details
08/27/2021	Site Plan Tearing Sheet

Foreign Exchange #5, LLC
Preliminary Landscape Plan

95 W. Central Avenue
Springboro, Ohio 45066

DATE: 08/20/2021

PROJECT #:

DRAWN: CP

REVIEWED: CP

C-5.0

SOIL EROSION/SEDIMENTATION CONTROL TIME SCHEDULE

NOTE: GENERAL CONTRACTOR TO COMPLETE TABLE WITH THEIR SPECIFIC PROJECT SCHEDULE

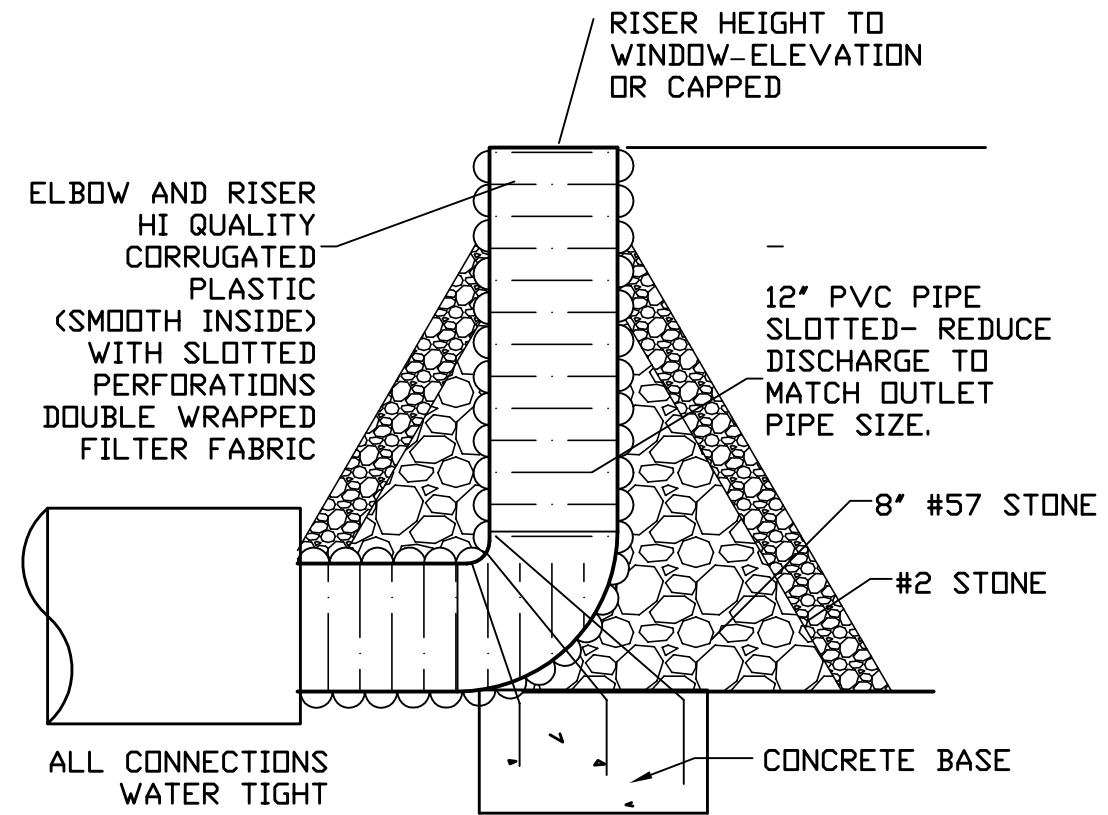
CONSTRUCTION SEQUENCE	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG
ROUGH GRADE / SEDIMENT CONTROL	*											
TEMPORARY CONTROL MEASURES		*										
STRIP & STOCKPILE TOPSOIL		*										
STORM FACILITIES				*								
TEMPORARY CONSTRUCTION ROADS			*	*	*	*						
FOUNDATION / BUILDING CONSTRUCTION			*	*	*	*						
SITE CONSTRUCTION							*					
PERMANENT CONTROL STRUCTURES							*					
FINISH GRADING						*	*					
LANDSCAPING/SEED/FINAL STABILIZATION							*	*				

SEQUENCE OF CONSTRUCTION PHASE I:

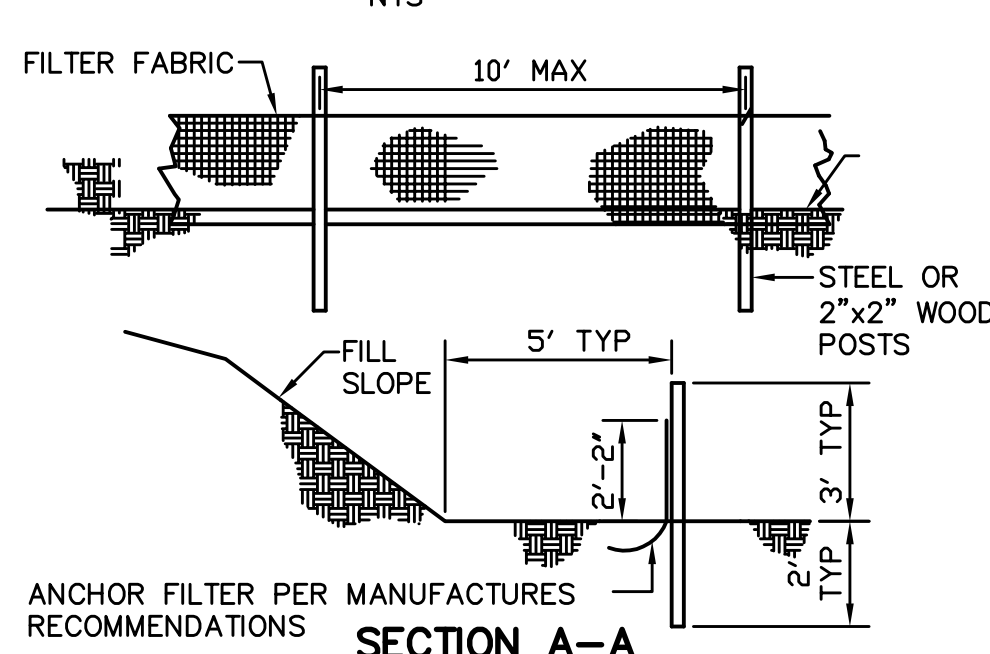
1. INSTALL STABILIZED CONSTRUCTION EXIT.
2. INSTALL REQUIRED SILT FENCE, DIVERSION DIKES AND SWALES, SEDIMENT TRAPS AND TEMPORARY SEDIMENT BASIN AND SKIMMERS.
HALT ALL ACTIVITIES AND CONTACT THE CIVIL ENGINEERING CONSULTANT TO PERFORM INSPECTION OF BMP'S. GENERAL CONTRACTOR SHALL SCHEDULE AND CONDUCT STORM WATER PRE-CONSTRUCTION MEETING WITH ENGINEER AND ALL GROUND DISTURBING CONTRACTORS BEFORE PROCEEDING WITH CONSTRUCTION.
3. PREPARE CONSTRUCTION PARKING AND STORAGE AREA. UPON IMPLEMENTATION AND INSTALLATION OF THE FOLLOWING AREAS: TRAILER, PARKING, LAY DOWN, PORT-A-POTTY, WHEEL WASH, CONCRETE WASHOUT, MASONS AREA, FUEL AND MATERIAL STORAGE CONTAINERS, SOLID WASTE CONTAINERS, ETC., DENOTE THEM IN THE SITE MAPS IMMEDIATELY AND NOTE ANY CHANGES IN THE LOCATIONS AS THEY OCCUR THROUGHOUT THE CONSTRUCTION PROCESS.
4. CLEAR AND GRUB THE SITE AS CONSTRUCTION ACTIVITY NECESSITATES.
5. PREPARE APPROVED DESIGNATED TRUCK WASHING AND MATERIAL STOCKPILE AREAS. INSTALL REQUIRED SEDIMENT AND/OR CONTAINMENT CONTROL AT THESE AREAS.
6. MAY START ON-SITE AND OFF-SITE WORK (INCLUDING ROADWAY).
7. ON-SITE GRADING, OFF-SITE GRADING (WHERE PERMISSIBLE).

NOTE:

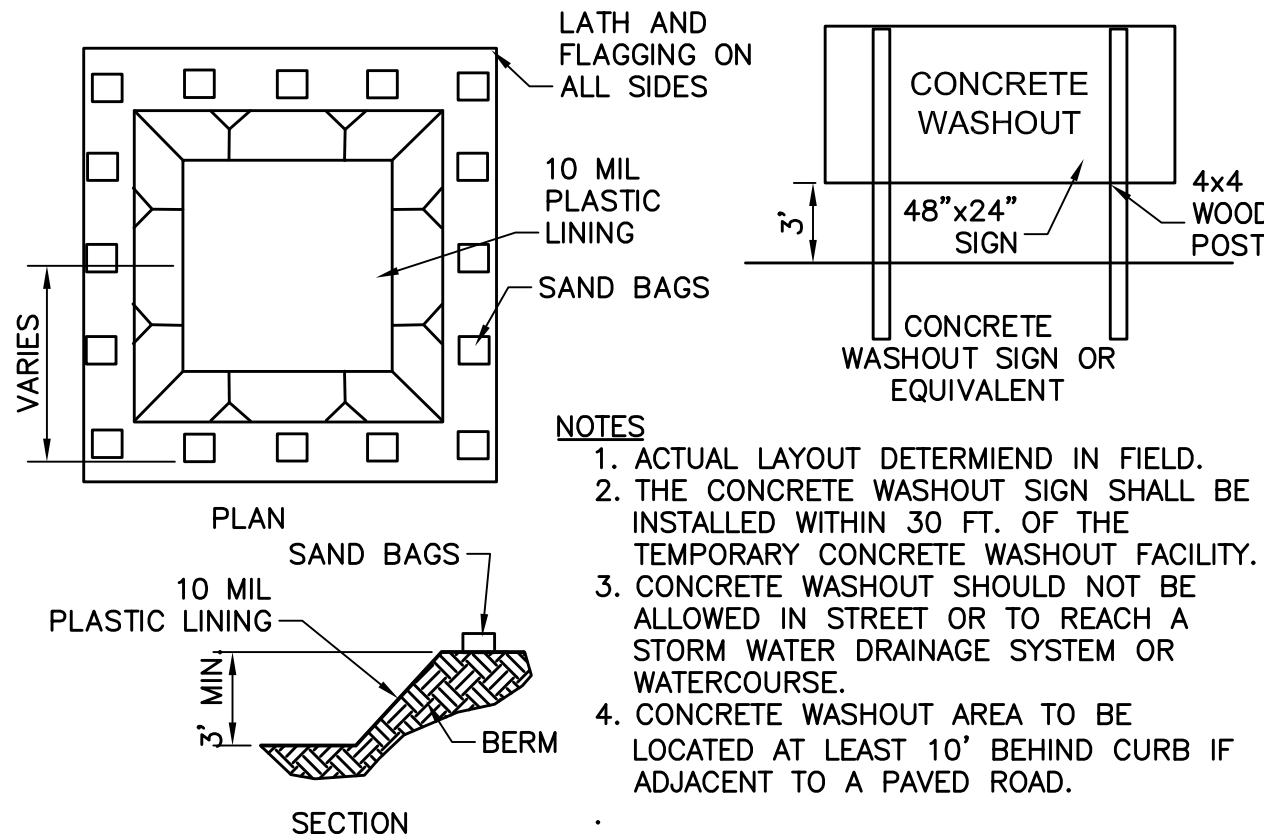
1. STREET CLEANING (ON AN AS-NEEDED BASIS) IS REQUIRED THROUGH THE DURATION OF THIS CONSTRUCTION PROJECT. THIS INCLUDES SWEEPING, POWER CLEANING AND (IF NECESSARY) MANUAL REMOVAL OF DIRT OR MUD IN THE STREET GUTTERS.
2. THIS PLAN MUST BE POSTED ON-SITE. A COPY OF THE SWPPP PLAN AND THE APPROVED EPA STORMWATER PERMIT (WITH THE SITE-SPECIFIC NOI NUMBER) SHALL BE KEPT ON-SITE AT ALL TIMES.
3. ANY EXISTING STORM INLETS IMPACTED BY THE NEW CONSTRUCTION ACTIVITY WILL NEED THE APPROPRIATE INLET PROTECTION FOR SEDIMENT CONTROL. PARTICULARLY NEEDED DURING DEMOLITION TIME.
4. UPPER BANK ABOVE NORMAL WATER ELEVATION SHOULD BE STABILIZED QUICKLY WITH STRAW BLANKETS, JUTTE MATTING OR SIMILAR GEO-TEXTILE.



TEMPORARY STANDPIPE DETAIL FOR SMALL BASINS

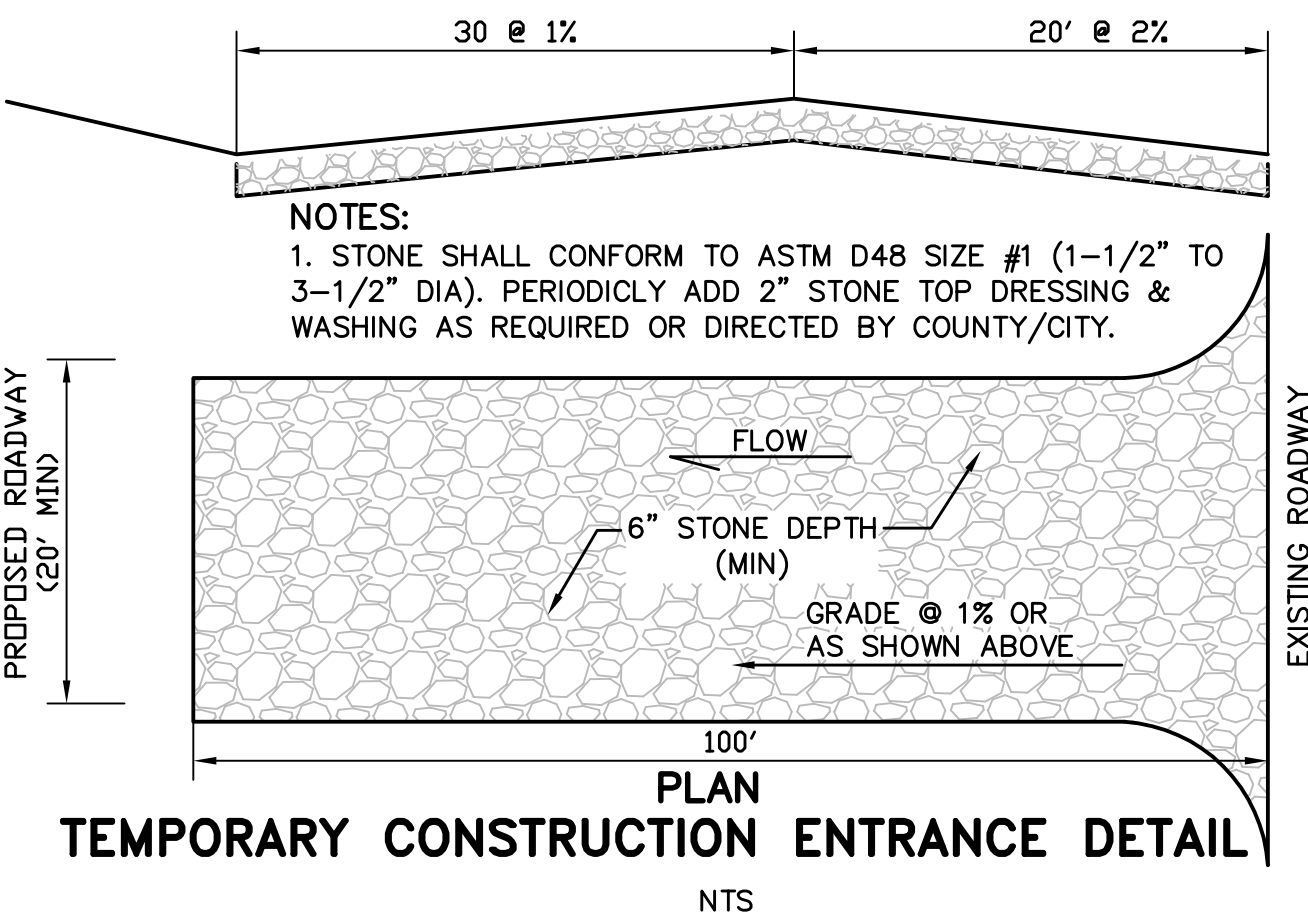


TEMPORARY SILT FENCE



CONCRETE WASHOUT

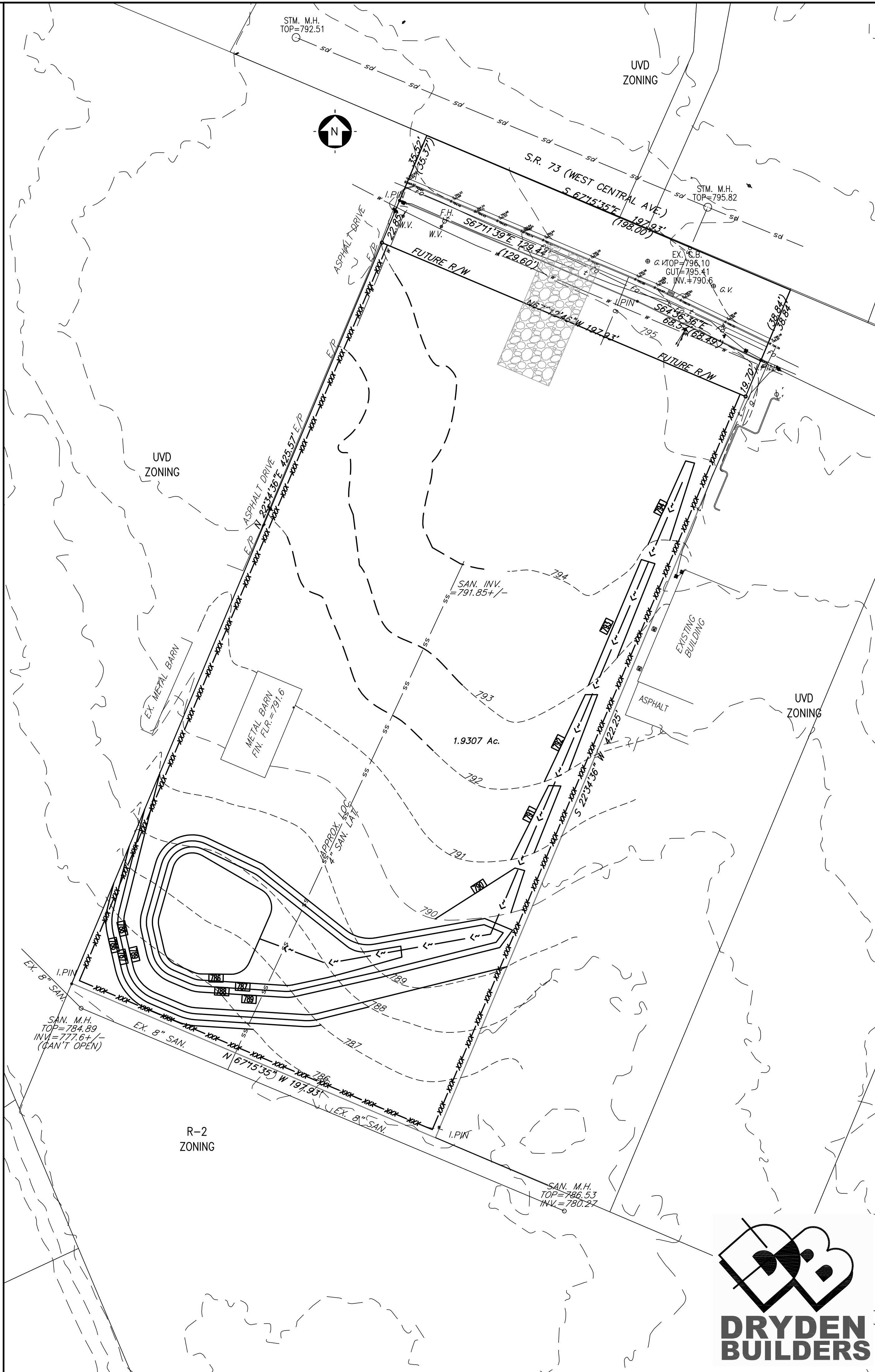
- MAINTENANCE
1. DRIED CONCRETE WASTE SHALL BE PICKED UP AND DISPOSED OF PROPERLY WHEN 75% OF CAPACITY IS REACHED.
 2. HARDENED CONCRETE CAN BE PROPERLY RECYCLED AND REUSED ONSITE OR HAULED OFF-SITE TO AN APPROPRIATE FACILITY



TEMPORARY CONSTRUCTION ENTRANCE DETAIL

GENERAL EROSION NOTES

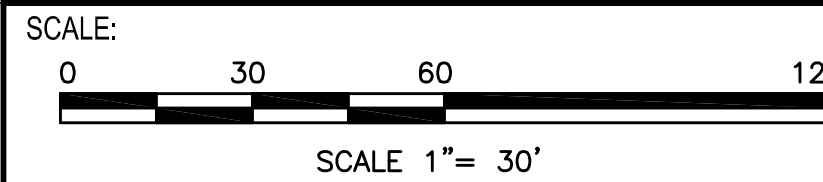
- A. THE STORMWATER POLLUTION PREVENTION PLAN IS COMPRISED OF THIS DRAWING ("SITE MAP"), THE STANDARD DETAILS, THE PLAN NARRATIVE, ATTACHMENTS INCLUDED IN SPECIFICATIONS SECTION 02370 ("SWPPP"), PLUS THE PERMIT AND ALL SUBSEQUENT REPORTS AND RELATED DOCUMENTS.
- B. ALL CONTRACTORS AND SUBCONTRACTORS INVOLVED WITH STORM WATER POLLUTION PREVENTION SHALL OBTAIN A COPY OF THE STORM WATER POLLUTION PREVENTION PLAN AND THE STATE OF ANY STATE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM GENERAL PERMIT (NPDES PERMIT) AND BECOME FAMILIARS WITH THEIR CONTENTS.
- C. CONTRACTOR SHALL IMPLEMENT BEST MANAGEMENT PRACTICES AS REQUIRED BY THE SWPPP. ADDITIONAL BEST MANAGEMENT PRACTICES SHALL BE IMPLEMENTED AS DICTATED BY CONDITIONS AT NO ADDITIONAL COST OF OWNER THROUGHOUT ALL PHASES OF CONSTRUCTION.
- D. BEST MANAGEMENT PRACTICES (BMP'S) AND CONTROLS SHALL CONFORM TO FEDERAL, STATE, OR LOCAL REQUIREMENTS OR MANUAL OF PRACTICE, AS APPLICABLE CONTRACTOR SHALL IMPLEMENT ADDITIONAL CONTROLS AS DIRECTED BY PERMITTING AGENCY OR OWNER.
- E. SITE MAP MUST CLEARLY DELINEATE ALL STATE WATERS. PERMITS FOR ANY CONSTRUCTION ACTIVITY IMPACTING STATE WATERS OR REGULATED WETLANDS MUST BE MAINTAINED ON SITE AT ALL TIMES.
- F. CONTRACTOR SHALL MINIMIZE CLEARING TO THE MAXIMUM EXTENT PRACTICAL OR AS REQUIRED BY THE GENERAL PERMIT.
- G. GENERAL CONTRACTOR SHALL DENOTE ON PLAN THE TEMPORARY PARKING AND STORAGE AREA WHICH SHALL ALSO BE USED AS THE EQUIPMENT MAINTENANCE AND CLEANING AREA, EMPLOYEE PARKING AREA, AND AREA FOR LOCATING PORTABLE FACILITIES, OFFICE TRAILERS, AND TOILET FACILITIES.
- H. ALL WASH WATER (CONCRETE TRUCKS, VEHICLE CLEANING, EQUIPMENT CLEANING, ETC.) SHALL BE DETAINED AND PROPERLY TREATED OR DISPOSED.
- I. SUFFICIENT OIL AND GREASE ABSORBING MATERIALS AND FLOTATION BOOMS SHALL BE MAINTAINED ON SITE OR READILY AVAILABLE TO CONTAIN AND CLEAN-UP FUEL OR CHEMICAL SPILLS AND LEAKS.
- J. DUST ON THE SITE SHALL BE CONTROLLED THE USE OF MOTOR OILS AND OTHER PETROLEUM BASED OR TOXIC LIQUIDS FOR DUST SUPPRESSION OPERATIONS IS PROHIBITED.
- K. RUBBISH, TRASH, GARBAGE, LITTER, OR OTHER SUCH MATERIALS SHALL BE DEPOSITED INTO SEALED CONTAINERS. MATERIALS SHALL BE PREVENTED FROM LEAVING THE PREMISES THROUGH THE ACTION OF WIND OR STORMWATER DISCHARGE INTO DRAINAGE DITCHES OR WATERS OF THE STATE.
- L. ALL STORM WATER POLLUTION PREVENTION MEASURES PRESENTED ON THIS PLAN, AND IN THE STORM WATER POLLUTION PREVENTION PLAN, SHALL BE INITIATED AS SOON AS PRACTICABLE.
- M. DISTURBED PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITY HAS STOPPED FOR AT LEAST 21 DAYS SHALL BE TEMPORARILY SEEDED. THESE AREAS SHALL BE SEEDED NO LATER THAN 14 DAYS FROM THE LAST CONSTRUCTION ACTIVITY OCCURRING IN THESE AREAS.
- N. DISTURBED PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITY HAS PERMANENTLY STOPPED SHALL BE PERMANENTLY SEEDED. THESE AREAS SHALL BE SEEDED NO LATER THAN 14 DAYS AFTER THE LAST CONSTRUCTION ACTIVITY OCCURRING IN THESE AREAS. REFER TO THE GRADING PLAN AND/OR LANDSCAPE PLAN.
- O. IF THE ACTION OF VEHICLES TRAVELING OVER THE GRAVEL CONSTRUCTION ENTRANCES IS NOT SUFFICIENT TO REMOVE THE MAJORITY OF DIRT OR MUD, THEN THE TIRES MUST BE WASHED BEFORE THE VEHICLES ENTER A PUBLIC ROAD. IF WASHING IS USED, PROVISIONS MUST BE MADE TO INTERCEPT THE WASH WATER AND TRAP THE SEDIMENT BEFORE IT IS CARRIED OFF THE SITE.
- P. ALL MATERIALS SPILLED, DROPPED, WASHED, OR TRACKED FROM VEHICLES ONTO ROADWAYS OR INTO STORM DRAINS MUST BE REMOVED IMMEDIATELY.
- Q. CONTRACTORS OR SUBCONTRACTORS WILL BE RESPONSIBLE FOR REMOVING SEDIMENT IN THE DETENTION POND AND ANY SEDIMENT THAT MAY HAVE COLLECTED IN THE STORM SEWER DRAINAGE SYSTEMS IN CONJUNCTION WITH THE STABILIZATION OF THE SITE.
- R. ON-SITE & OFFSITE SOIL STOCKPILE AND BORROW AREAS SHALL BE PROTECTED FROM EROSION AND SEDIMENTATION THROUGH IMPLEMENTATION OF BEST MANAGEMENT PRACTICES. STOCKPILE AND BORROW AREA LOCATIONS SHALL BE NOTED ON THE SITE MAP AND PERMITTED IN ACCORDANCE WITH GENERAL PERMIT REQUIREMENTS.
- S. SLOPES SHALL BE LEFT IN A ROUGHENED CONDITION DURING THE GRADING PHASE TO REDUCE RUNOFF VELOCITIES AND EROSION.
- T. DUE TO THE GRADE CHANGES DURING THE DEVELOPMENT OF THE PROJECT, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADJUSTING THE EROSION CONTROL MEASURES (SILT FENCES, STRAW BALES, ETC.) TO PREVENT EROSION.
- U. ALL CONSTRUCTION SHALL BE STABILIZED AT THE END OF EACH WORKING DAY, THIS INCLUDES BACKFILLING OF TRENCHES FOR UTILITY CONSTRUCTION AND PLACEMENT OF GRAVEL OR BITUMINOUS PAVING FOR ROAD CONSTRUCTION.



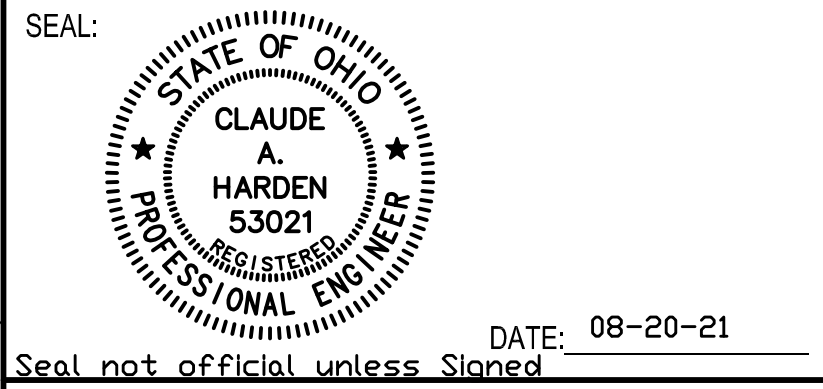
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937-439-2728

SWP-3.1
EROSION CONTROL
PLAN PHASE 1

SOIL EROSION/SEDIMENTATION CONTROL TIME SCHEDULE												
NOTE: GENERAL CONTRACTOR TO COMPLETE TABLE WITH THEIR SPECIFIC PROJECT SCHEDULE												
CONSTRUCTION SEQUENCE	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN
ROUGH GRADE / SEDIMENT CONTROL	*											
TEMPORARY CONTROL MEASURES		*										
STRIP & STOCKPILE TOPSOIL		*										
STORM FACILITIES					*							
TEMPORARY CONSTRUCTION ROADS				*	*	*	*					
FOUNDATION / BUILDING CONSTRUCTION				*	*	*	*					
SITE CONSTRUCTION												
PERMANENT CONTROL STRUCTURES						*						
FINISH GRADING							*					
LANDSCAPING/SEED/FINAL STABILIZATION								*	*			

SEQUENCE OF CONSTRUCTION PHASE II:

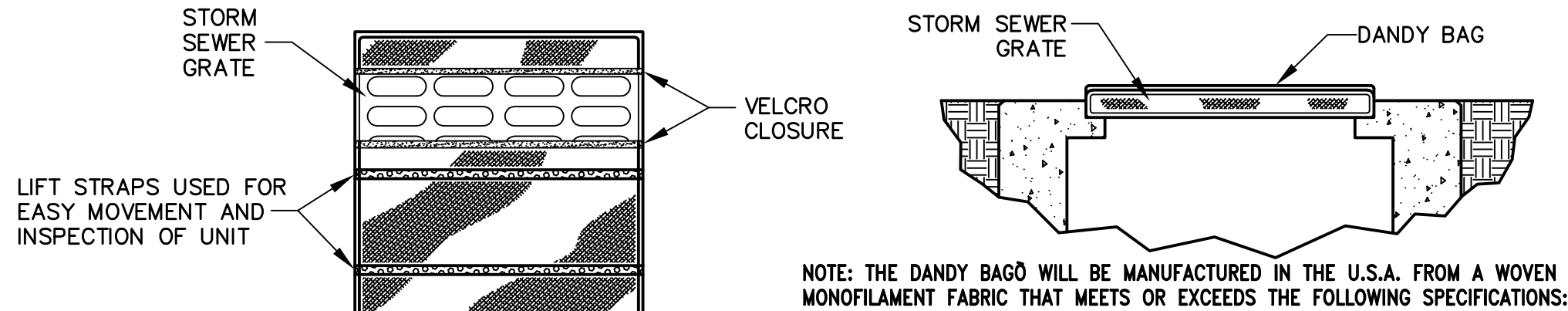
- TEMPORARILY SEED DENUDED AREAS.
- START CONSTRUCTION OF BUILDING PAD AND STRUCTURES.
- INSTALL UTILITIES (SANITARY, WATER, ETC.) INCLUDING UNDERDRAINS AND STORM SEWERS.
- INSTALL SEDIMENT CONTROLS AROUND DRAINAGE STRUCTURES, INCLUDING EROSION CONTROL BLANKETS AND RIP RAP.
- START GRADING, CONSTRUCT CURBS AND GUTTERS, AND PREPARE SITE FOR PAVING.
- BARRICADE UNUSED ENTRANCES TO THE SITE UNTIL SITE IS PAVED.
- INSTALL INLET PROTECTION DEVICES.
- COMPLETE GRADING AND INSTALL PERMANENT SEEDING AND PLANTING.
- REMOVE ALL TEMPORARY EROSION AND SEDIMENT CONTROL DEVICES (ONLY IF SITE IS STABILIZED)

NOTE:

- STREET CLEANING (ON AN AS-NEEDED BASIS) IS REQUIRED THROUGH THE DURATION OF THIS CONSTRUCTION PROJECT. THIS INCLUDES SWEEPING, POWER CLEANING AND (IF NECESSARY) MANUAL REMOVAL OF DIRT OR MUD IN THE STREET GUTTERS.
- THIS PLAN MUST BE POSTED ON-SITE. A COPY OF THE SWPPP PLAN AND THE APPROVED EPA STORMWATER PERMIT (WITH THE SITE-SPECIFIC NOI NUMBER) SHALL BE KEPT ON-SITE AT ALL TIMES.
- ANY EXISTING STORM INLETS IMPACTED BY THE NEW CONSTRUCTION ACTIVITY WILL NEED THE APPROPRIATE INLET PROTECTION FOR SEDIMENT CONTROL. PARTICULARLY NEEDED DURING DEMOLITION TIME.
- UPPER BANK ABOVE NORMAL WATER ELEVATION SHOULD BE STABILIZED QUICKLY WITH STRAW BLANKETS, JUTTE MATTING OR SIMILAR GEO-TEXTILE.

Post Construction Detention Basin Maintenance
The owner shall be responsible for the maintenance and operation of the detention basin throughout the life of the project. Water quality shall be visually monitored on a periodic basis to ensure compliance with design standards. The maintenance activity

Maintenance Activity	Schedule
Inspect for sediment accumulation	Annually
Remove sediment accumulation when it exceeds 1/2 the outlet control orifice depth or 6" whichever is greater	Every 5-10 years as needed
Inspect for debris (dead vegetation and trash)	Early spring, fall and after Major Storms
Clean debris	As needed
Inspect for erosion on banks and bottom	Early spring, fall and after Major Storms
Reestablish permanent vegetation on eroded slopes	As needed
Rake out dead vegetation	Annually - early spring
Replace stone rip-rap	Every 3-5 years as needed
Mowing	0 to 2 times per year
Inspect structural elements during wet weather and compare to as-built plans	Annually
Make adjustments or replacements as determined by annual wet weather inspection	As needed
Keep records of all inspections and maintenance activities	Annually
Keep records of all costs for inspections, maintenance, and repairs	Annually
Have a professional engineer carry out emergency inspections upon identification of severe problems	As needed
Inspections shall include detention basin side slopes, outlets and outlet control structures, basin inlets sumps and storm sewer systems.	



MECHANICAL PROPERTIES	TEST METHOD	UNITS	MARV
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 X (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/m^2 (gal/min/ft^2)	5907 (145)
PERMITTIVITY	ASTM D 4491	SEC ^-1	2.1

NOTE: ALL DANDY BAGS® CAN BE ORDERED WITH OUR OPTIONAL OIL ABSORBENT PILLOWS

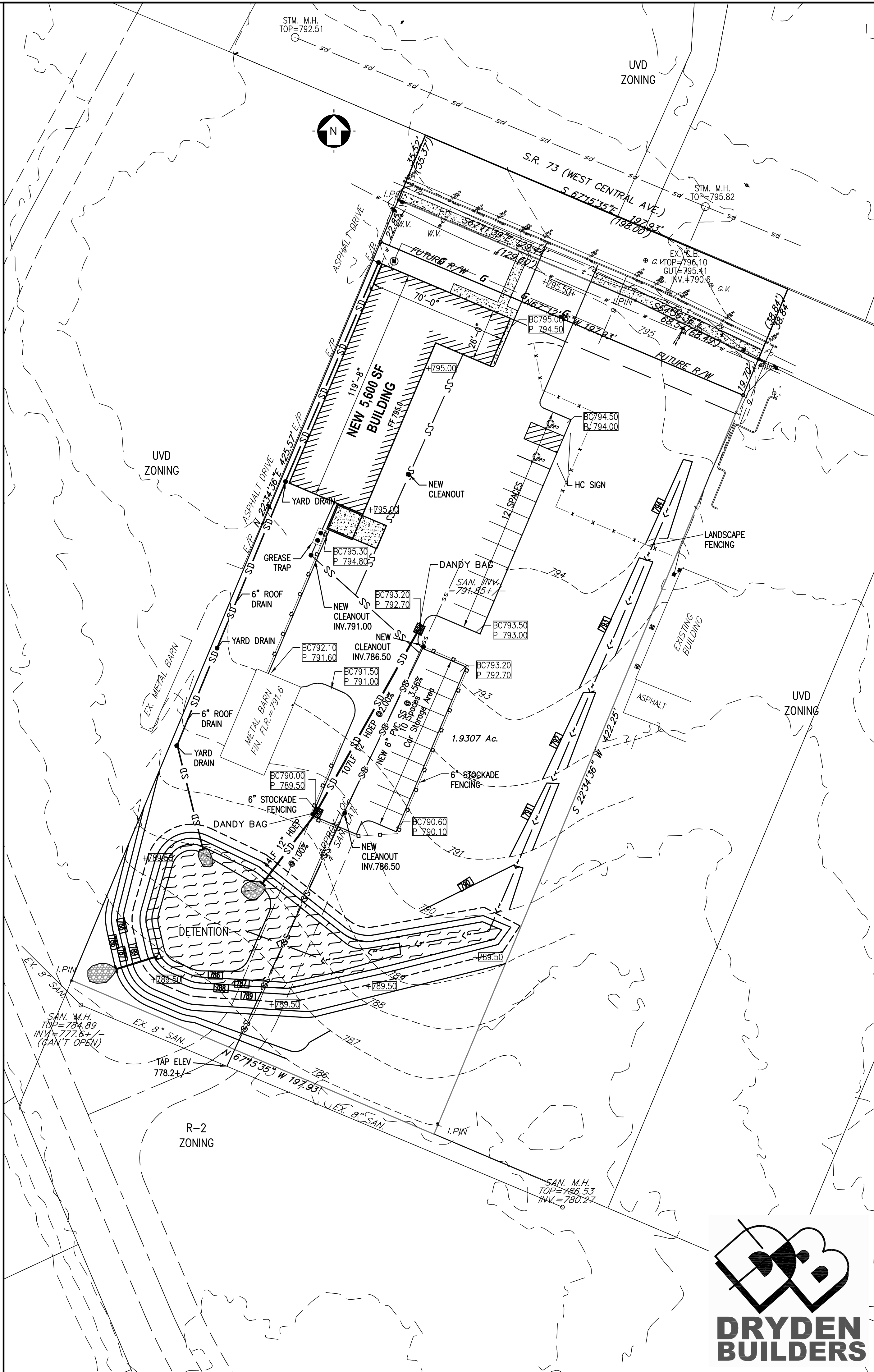
INLET SEDIMENT CONTROL DEVICE DETAIL

NTS

NOTE!
EXISTING UNDERGROUND UTILITIES AND SERVICES ARE SHOWN IN THEIR APPROXIMATE LOCATIONS ACCORDING TO THE BEST INFORMATION AVAILABLE. THE LOCATIONS SHOWN ARE INTENDED ONLY AS A GUIDE AND CANNOT BE GUARANTEED ACCURATE. NOTIFY THE FOLLOWING 48 HOURS PRIOR TO CONSTRUCTION TO FIELD LOCATE UTILITIES.



2 WORKING DAYS
BEFORE YOU DIG
CALL TOLL FREE
800-362-2764 or 811
OHIO UTILITIES PROTECTION SERVICE



GRADING NOTES

- ALL FILL MATERIALS PLACED ON THE SITE, INCLUDING ALL TRENCHES AND ALL SLOPE AREAS, SHALL BE COMPACTED IN ACCORDANCE WITH THE GEOTECHNICAL ENGINEER'S RECOMMENDATIONS BUT AT A MINIMUM OF 98% OF ASTM D-698 STANDARD PROCTOR AND IN ACCORDANCE WITH THE COUNTY ENGINEERS RECOMMENDATIONS. FILL MATERIALS WILL BE TESTED BY AN INDEPENDENT GEOTECHNICAL TESTING LAB AND PAID FOR BY THE OWNER. TESTS WILL BE CONDUCTED AT A MINIMUM OF ONE PER 5,000 SF PER LIFT OR AS DIRECTED BY THE ENGINEER.
- ALL AREAS OF THE SITE SHALL BE GRADED TO PROVIDE POSITIVE DRAINAGE.
- THE EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO INITIAL LAND DISTURBANCE ACTIVITIES OR AS SOON AS PRACTICAL. SEDIMENT SHALL BE PREVENTED FROM DISCHARGING FROM THE PROJECT SITE BY INSTALLING AND MAINTAINING SILT FENCE, STRAW BALES, SEDIMENT BASINS, ETC. OR OTHER METHODS AS INDICATED IN THE PLANS. EROSION CONTROL DEVICES SHALL BE INSTALLED FOR ALL SITES REMAINING DISTURBED FOR MORE THAN 14 DAYS.
- THE CONTRACTOR SHALL CONTROL WASTES, GARBAGE, DEBRIS, WASTEWATER, AND OTHER SUBSTANCES GENERATED BY CONSTRUCTION ON THE SITE. ALL WASTE MATERIAL SHALL BE DISPOSED OF IN ACCORDANCE WITH ALL STATE OR LOCAL REGULATIONS.
- ALL ON-SITE STORM DRAIN INLETS SHALL BE PROTECTED AGAINST SEDIMENTATION WITH STRAW BALES, FILTER FABRIC, OR EQUIVALENT BARRIERS.
- EXCEPT AS PREVENTED BY INCLEMENT WEATHER CONDITIONS, ALL DISTURBED AREAS TO REMAIN INACTIVE FOR MORE THAN 45 DAYS SHALL BE STABILIZED BY SEEDING, SODDING, MULCHING, COVERING, OR BY OTHER EQUIVALENT EROSION CONTROL MEASURES WITHIN SEVEN (7) DAYS. PERMANENT SOIL STABILIZATION SHALL BE PROVIDED WITHIN 7 DAYS AFTER FINAL GRADE IS ESTABLISHED.
- ALL EROSION CONTROL PRACTICES SHALL BE IN ACCORDANCE WITH THE SOIL CONSERVATION SERVICE MANUAL "WATER MANAGEMENT AND SEDIMENT CONTROL FOR URBANIZING AREAS."
- EROSION AND SEDIMENTATION CONTROLS ARE TO BE INSPECTED AT LEAST ONCE EVERY SEVEN DAYS WITHIN 24 HOURS AFTER ANY STORM EVENT GREATER THAN 0.5 INCHES OF RAIN PER 24 HOUR PERIOD.

EXISTING	PROPOSED
g	G
e	E
t	T
w	W
ss	SS
sd	SD
	CONTOURS

SCALE:
0 30 60 120
SCALE 1"= 30'

No.	DATE	ISSUED	REV.
1	08-20-21	PLANNING COMMISSION REVIEW	.
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SEAL:
STATE OF OHIO
CLAUDE A. HARDEN
53021
PROFESSIONAL ENGINEER
DATE: 08-20-21
Seal not official unless Signed

Calibre Engineering
10534-B Success Lane
Centerville, OH 45458
937.885.9380
CalibreEng@aol.com

Foreign Exchange #5, LLC
95 W. Central
City of Springboro
Warren County, Ohio
Dryden Builders
1741 Thomas Paine Parkway
Centerville, Ohio
937-439-2728

SWP-3.2
EROSION CONTROL
PLAN PHASE 2



Foreign Exchange - Springboro
Site Lighting Photometric

Schedule

Symbol	Label	Quantity	Manufacturer	Catalog Number	Description	Number Lamps	Lumens Per Lamp	Light Loss Factor	Wattage
	A	3	Industrial Lighting Products Inc	AL-110W-U-40-T3-BLK	Medium Area Light, Pole Fixture	1	16601	0.9	112.667
	B	5	Industrial Lighting Products, LLC	SWP-3L-U-CCTS-BLK	SWP-3L-U-CCTS-BLK, Slim Wall Pack	1	3310	0.9	22.8
	C	3	GREEN CREATIVE LTD	led downlight	SLFT6/80CCTS/DIM120V, Under Awnings	1	1000	0.9	14.97

Statistics

Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Entrance	+	4.9 fc	5.0 fc	4.8 fc	1.0:1	1.0:1
Entrance	+	3.0 fc	3.0 fc	3.0 fc	1.0:1	1.0:1
Entrance	+	2.6 fc	2.8 fc	2.5 fc	1.1:1	1.0:1
Parking Lot/Loading	+	2.1 fc	5.7 fc	0.4 fc	14.3:1	5.3:1
Walkway	+	0.9 fc	2.0 fc	0.2 fc	10.0:1	4.5:1
Property Line	+	0.0 fc	0.1 fc	0.0 fc	N/A	N/A

Note

1. Dimensions:
2. Mounting Height: 20, 14, 12, 10
3. Calc Zone: 0
4. Reflectances:

Calculations provided are estimates only.

Designer

Bryan Schneider

Date

08/25/2021

Scale

Not to Scale

Drawing No.

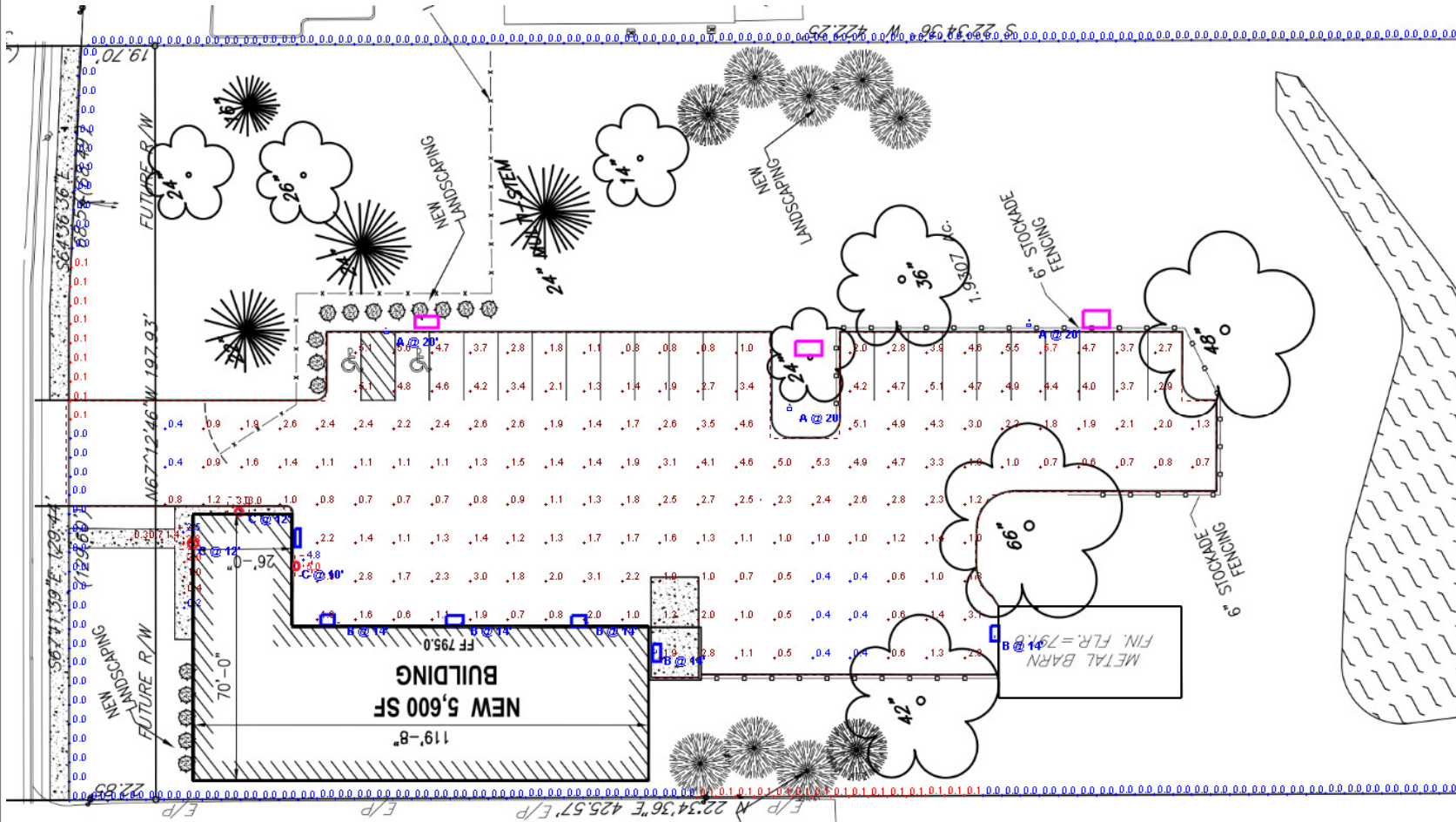
Summary



Foreign Exchange - Springboro Site Lighting Photometric

Designer
Bryan Schneider
Date
08/24/2021
Scale
Not to Scale
Drawing No.

Summary





Transmittal

LEESMAN LIGHTING
 130 W. ROSS AVE
 CINCINNATI OH 45217
 Phone: (513) 693-4060
From: Dennis Leesman

Project Foreign Exchange - LEE21-44355
Quote# LEE21-44355
Location Springboro Oh
To LYONS ELECTRICAL SUPPLY
 PO BOX 96
 DAYTON OH 45401
 Contact: Tom Lyons


ATTACHED WE ARE SENDING YOU 1 COPY OF THE FOLLOWING ITEM:

- | | | |
|-----------------------------------|------------------------------------------------|--------|
| <input type="checkbox"/> Drawings | <input type="checkbox"/> Specifications | Other: |
| <input type="checkbox"/> Prints | <input type="checkbox"/> Information | |
| <input type="checkbox"/> Plans | <input checked="" type="checkbox"/> Submittals | |

THESE ARE TRANSMITTED FOR:

- | | | |
|------------------------------------------------|---------------------------------------------------|---------------------------------|
| <input type="checkbox"/> Prior Approval | <input type="checkbox"/> Resubmittal for Approval | <input type="checkbox"/> Record |
| <input checked="" type="checkbox"/> Approval | <input type="checkbox"/> Corrections | Bids due on: |
| <input type="checkbox"/> Approval as Submitted | <input type="checkbox"/> Your Use | Other: |
| <input type="checkbox"/> Approval as Noted | <input type="checkbox"/> Review and Comment | |

Type	MFG	Part
A	ILP	AL-110W-U-40-T3-UPMB-BLK
A	ILP	ILPOLE-SS-4-20-11-1-BLK
B	ILP	SWP3LUCCTSBLK
C	Green Creative	SLFT6/80CCTS/DIM010UNV

Submitted by LEESMAN LIGHTING 	Job Name: Foreign Exchange - LEE21-44355	Catalog Number: AL-110W-U-40-T3-UPMB-BLK Notes:	Type: A LEE21-44355
-------------------------------------------------------------------------------------------------------------------	----------------------------------------------------	-------------------------------------------------------------------------	---------------------------------------------

Project Name:	Part Number:	Type:
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MEDIUM AREA LIGHT - 110W, 150W, 190W & 225W OUTDOOR

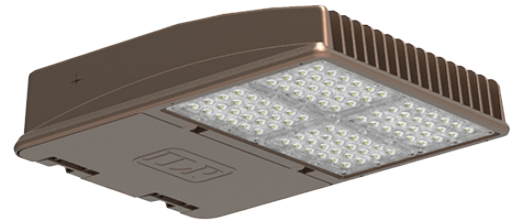


FEATURES

- Bronze die-cast aluminum housing
- Custom and factory select colors available (Contact factory for pricing)
- Type II, III, IV, & VS optics available
- Toolless hinged drop down driver access
- Universal Pole Mounting Bracket (UPMB) or Fixed Arm (ARM6-S) (std.)
- 3G ANSI C136.31-2010 with HTMA Bracket
- Swappable driver cover
- IP66 Rated
- 3000K, 4000K, & 5000K CCT
- 0-10V Dimmable Driver
- Dark Sky Compliant^{1,2}
- 5 Year Warranty
- DesignLights Consortium® Premium Qualified Luminaire

¹3000K is IDA Listed

²Must select UPMB, ARM6, or HTMA mounting options to qualify



SUITABLE APPLICATIONS

- Parking Lots
- Car Dealerships
- Roadways
- Shopping Centers

LED INFO		T3	T4		T3	T4		T3	T4		T3	T4
Calculated L ₇₀ (TM-21)	110W	>100K	>100K	150W	>100K	>100K	190W	>100K	>100K	225W	>100K	>100K
Calculated L ₉₀		50K	50K		50K	50K		50K	50K			
Delivered Lumens		17,390 lm	17,031 lm		21,849 lm	20,989 lm		26,329 lm	25,825 lm		30,229 lm	29,372 lm
Total Input Watts		113W	113W		149W	149W		188W	188W		232W	232W
Efficacy		154 lm/W	151 lm/W		146 lm/W	141 lm/W		140 lm/W	137 lm/W		131 lm/W	127 lm/W
CCT	4000K	4000K	4000K	4000K	4000K	4000K	4000K	4000K	4000K			
CRI	>70	>70	>70	>70	>70	>70	>70	>70	>70			
BUG Rating	B3-U0-G3	B3-U0-G3	B3-U0-G3	B3-U0-G3	B3-U0-G3	B3-U0-G3	B3-U0-G3	B3-U0-G4	B3-U0-G4			
Ambient Temp Range	-40°F- 118°F	-40°F- 118°F	-40°F- 118°F	-40°F- 118°F	-40°F- 118°F	-40°F- 118°F	-40°F- 118°F	-40°F- 113°F	-40°F- 113°F			
Universal Driver	120-277 V	120-277 V	120-277 V	120-277 V	120-277 V	120-277 V	120-277 V	120-277 V	120-277 V			
LED System data for other optics located on second page. LED System data above based on AL-110W-U-40-T3, AL-110W-U-40-T4, AL-150W-U-40-T3, AL-150W-U-40-T4, AL-190W-U-40-T3, AL-190W-U-40-T4, AL-225W-U-40-T3 & AL-225W-U-40-T4. LED Lumen maintenance estimates based on TM-21 projections for the light source at 25°C ambient.												

LED System data for other optics located on second page. LED System data above based on: AL-110W-U-40-T3, AL-110W-U-40-T4, AL-150W-U-40-T3, AL-150W-U-40-T4, AL-190W-U-40-T3, AL-190W-U-40-T4, AL-225W-U-40-T3 & AL-225W-U-40-T4. LED Lumen maintenance estimates based on TM-21 projections for the light source at 25°C ambient.

ORDERING GUIDE:

Series	Watts	Driver	Color	Optics	Options	
AL Med Area Light	110W	U 120-277V Driver	50	T2	HSS*	House Side Shield (Excludes T5S)
	150W	HV 347-480V Driver	40	T3	GS	Glare Shield
	190W		30	T4	TPS/L	Tamperproof Screws Latches Only
	225W			T5S	TPS/FF	Tamperproof Screws Full Fixture
			BLK - BLACK		WLOS	Wet Location Rated Occupancy Sensor
					USBD	User Select Bi-Level Din w/ Occ. Sensor
					BDxx	Preset Bi-Level Dim Sensor (xx=% eg. 20, 30)
					BDxxPC	Preset Bi-Level Dim Sensor w/ Photocell (xx=% eg. 20, 30)
					FSIR/100	Remote Configuration Tool (WLOS, USBD, BDxx & BDxxPC)
					TLPC	Twist lock receptacle w/ field installed photocell
					TLPC/480V	Twist lock receptacle w/ field installed 347-480VAC photocell
					7PIN/PC/R	7 pin twist lock receptacle w/ field installed photocell
					SML xxxx	Specified Max Lumen Output (xxxx = lumen output)
					UPMB	Universal Pole Mounting Bracket
					UPMB/R	Universal Pole Mounting Bracket w/ Round Pole Adapter 4"-5"
					ARM6-S	6" Straight Arm Adaptor for Square Pole
					ARM6-Rx	6" Straight Arm Adaptor for Round Pole (x = diameter)
					WMB	Wall Mount Bracket
					AL-SLPF	Adjustable Slip Fitter
					AL-SB	Adjustable Swivel Bracket
					HTMA	Horizontal Tenon Mount Adaptor
					FUSE/SXXX	Single-line Voltage Fuse (120, 277, 347)
					FUSE/DXXX	Dual-line Voltage Fuse (208, 240, 480)
					SP1	10kA Max Univolt Surge Protector
					SP2	22kA Max Univolt Surge Protector
					SP480V2	20kA Max 480V Surge Protector
					SD480V	480V Step Down Transformer (Excludes 225W)
					SD347V	347V Step Down Transformer (Excludes 225W)

ALSPEC0619



MEDIUM AREA LIGHT - 110W, 150W, 190W & 225W

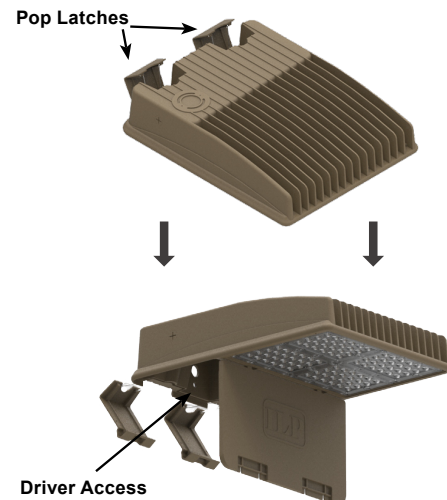
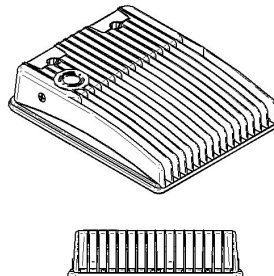
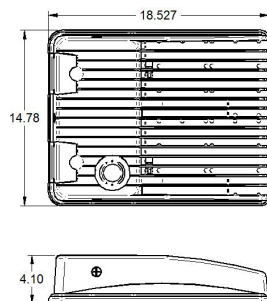
OUTDOOR

LED INFO		T2	T5S		T2	T5S		T2	T5S		T2	T5S
Calculated L ₇₀ (TM-21)	110W	>100K	>100K	150W	>100K	>100K	190W	>100K	>100K	225W	>100K	>100K
Calculated L ₉₀		50K	50K		50K	50K		50K	50K		>60K	>60K
Delivered Lumens		17,489 lm	17,316 lm		21,715 lm	21,738 lm		26,479 lm	26,222 lm		30,326 lm	30,135 lm
Total Input Watts		113W	113W		147W	149W		188W	188W		232W	232W
Efficacy		155 lm/W	154 lm/W		148 lm/W	146 lm/W		141 lm/W	139 lm/W		131 lm/W	130 lm/W
CCT		4000K	4000K		4000K	4000K		4000K	4000K		4000K	4000K
CRI		>70	>70		>70	>70		>70	>70		>70	>70
BUG Rating		B3-U0-G3	B4-U0-G2		B3-U0-G3	B4-U0-G2		B4-U0-G4	B5-U0-G3		B4-U0-G4	B5-U0-G3
Ambient Temp Range		-40°F-118°F	-40°F-118°F		-40°F-118°F	-40°F-118°F		-40°F-118°F	-40°F-118°F		-40°F-113°F	-40°F-113°F
Universal Driver		120-277 V	120-277 V		120-277 V	120-277 V		120-277 V	120-277 V		120-277 V	120-277 V

LED System data for other optics located on second page. LED System data above based on: AL-110W-U-40-T2, AL-110W-U-40-T5S, AL-150W-U-40-T2, AL-150W-U-40-T5S, AL-190W-U-40-T2, AL-190W-U-40-T5S, AL-225W-U-40-T2 & AL-225W-U-40-T5S. LED Lumen maintenance estimates based on TM-21 projections for the light source at 25°C ambient.

LINE DRAWING

TOOL-LESS DRIVER ACCESS





MEDIUM AREA LIGHT - 110W, 150W, 190W & 225W

OUTDOOR

MOUNTING OPTIONS

• UPMB - Universal Pole Mounting Bracket

- UPMB/R - Universal Pole Mounting Bracket
- WMB - Wall Mount Bracket
- AL-SLPF - Adjustable Slip Fitter
- AL-SB - Swivel Bracket
- HTMA - Horizontal Tenon Mount Adaptor
- ARM6-S - 6" Straight Arm Adaptor For Square Pole
- ARM6-Rx - 6" Straight Arm Adaptor For Round Pole (x = Ø)

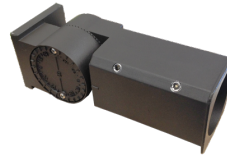
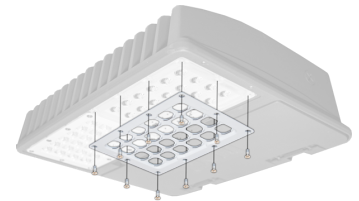
EPA RATINGS

AL-110W, 150W, 190W, & 225W	ARM6-S	UPMB	HTMA	AL-SLPF	AL-SB
	0.77 ft²	0.92 ft²	0.73 ft²	0.84 ft²	0.76 ft²

WEIGHT

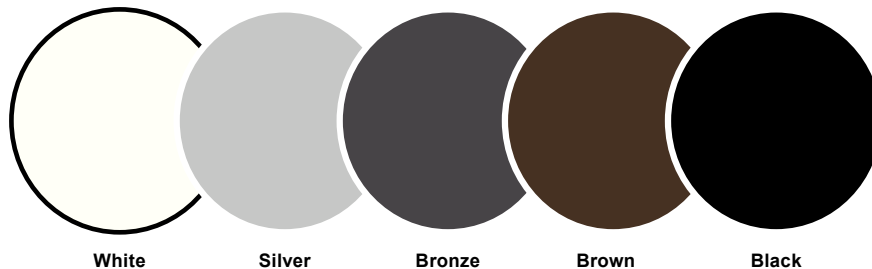
23lb - 26lb

* EPA Ratings listed assume fixture is mounted horizontally.
 For adjustable mounting options, EPA will vary with selected angle.

**UPMB****WMB****AL-SLPF**
HSS
 (House Side Shield)
**AL-SB****HTMA**
ARM6-S
 (Available for Square or Round Pole)

GS
 (Glare Shield)

FACTORY SELECT COLOR GUIDE

**White****Silver****Bronze****Brown****Black**

COLOR NAME AND DESCRIPTION	SHEEN	PRODUCT	VENDOR	PRICING
WHT - ILP White	SEMI GLOSS	POLANE T	SHERWIN-WILLIAMS	Contact Factory for Pricing
SLV - ILP Silver - Ultrasonic Chrome	GLOSS	POLANE T	SHERWIN-WILLIAMS	Contact Factory for Pricing
BRZ - ILP Bronze - std. & in stock	SEMI GLOSS	POLANE T	SHERWIN-WILLIAMS	Standard
BRN - ILP Brown	SEMI GLOSS	POLANE T	SHERWIN-WILLIAMS	Contact Factory for Pricing
BLK - ILP Black	SEMI GLOSS	POLANE T	SHERWIN-WILLIAMS	Contact Factory for Pricing

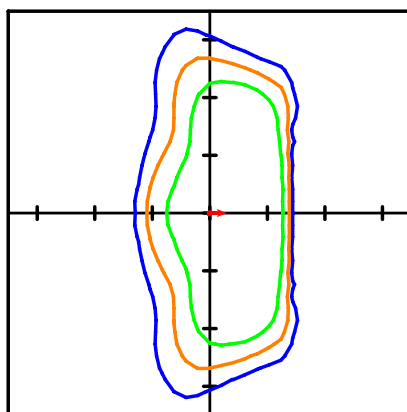
**COLORS SHOWN ABOVE ARE TO BE USED AS REFERENCE, NOT EXACT MATCH.
 PLEASE REQUEST PAINT CHIPS FOR EXACT MATCH.**



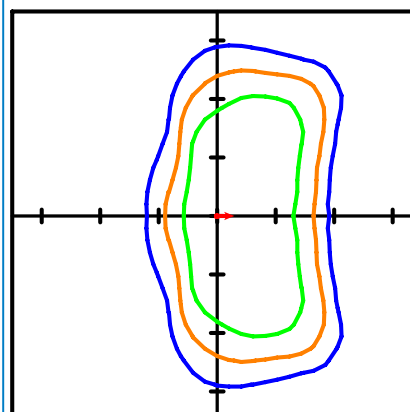
MEDIUM AREA LIGHT - 110W, 150W, 190W & 225W **OUTDOOR**

PHOTOMETRIC REPORTS

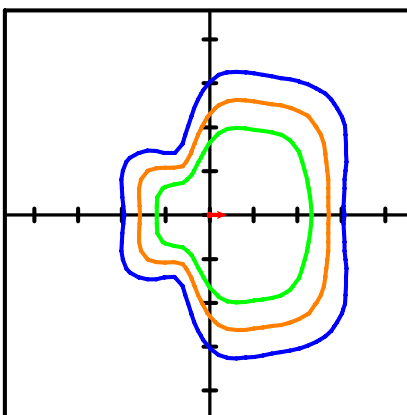
Photometric values based upon tests performed in compliance with LM-79. IES files can be downloaded at www.ilp-inc.com
 Blue = .5 fc, Orange = 1 fc, & Green = 2 fc

AL-110W-U-40-T2

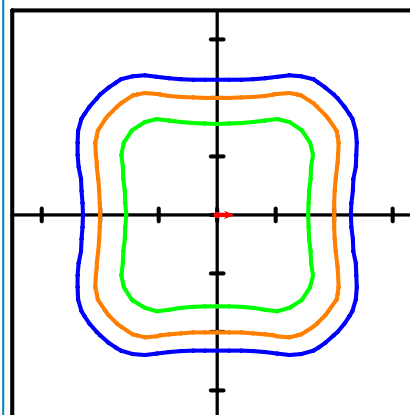
Horizontal Footcandles
 Scale: 1 inch = 20ft
 Luminaire Lumens = 17489
 Mounting Height = 20.00 Ft
 Maximum Calculated Value = 7.37 Fc

AL-110W-U-40-T3

Horizontal Footcandles
 Scale: 1 inch = 20ft
 Luminaire Lumens = 16600
 Mounting Height = 20.00 Ft
 Maximum Calculated Value = 6.19 Fc

AL-110W-U-40-T4

Horizontal Footcandles
 Scale: 1 inch = 20ft
 Luminaire Lumens = 17031
 Mounting Height = 15.00 Ft
 Maximum Calculated Value = 13.05 Fc

AL-110W-U-40-T5S

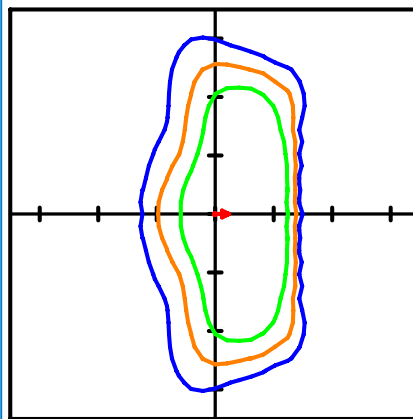
Horizontal Footcandles
 Scale: 1 inch = 20ft
 Luminaire Lumens = 17314
 Mounting Height = 20.00 Ft
 Maximum Calculated Value = 3.82 Fc



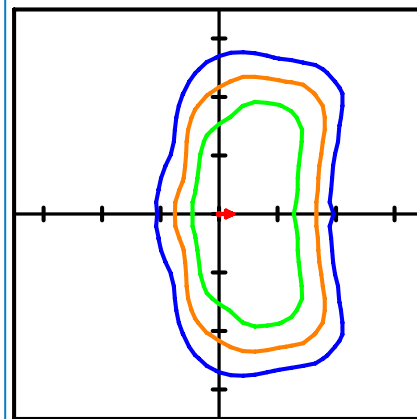
MEDIUM AREA LIGHT - 110W, 150W, 190W & 225W **OUTDOOR**

PHOTOMETRIC REPORTS

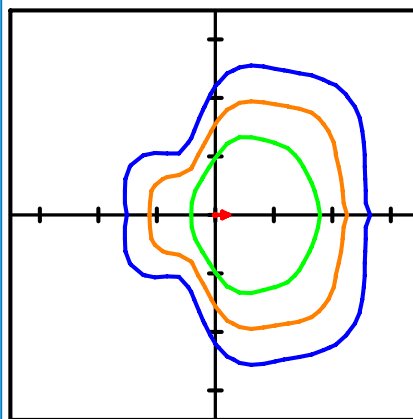
Photometric values based upon tests performed in compliance with LM-79. IES files can be downloaded at www.ilp-inc.com
 Blue = 2 fc, Orange = 1 fc, & Green = .5 fc

AL-150W-U-40-T2

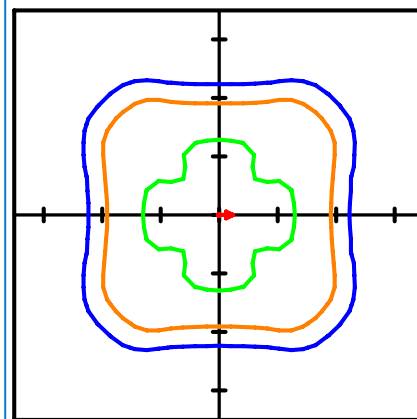
Horizontal Footcandles
 Scale: 1 inch = 25ft
 Luminaire Lumens = 21715
 Mounting Height = 25.00 Ft
 Maximum Calculated Value = 5.61 Fc

AL-150W-U-40-T3

Horizontal Footcandles
 Scale: 1 inch = 25ft
 Luminaire Lumens = 21541
 Mounting Height = 25.00 Ft
 Maximum Calculated Value = 5.40 Fc

AL-150W-U-40-T4

Horizontal Footcandles
 Scale: 1 inch = 25ft
 Luminaire Lumens = 20988
 Mounting Height = 25.00 Ft
 Maximum Calculated Value = 5.62 Fc

AL-150W-U-40-T5S

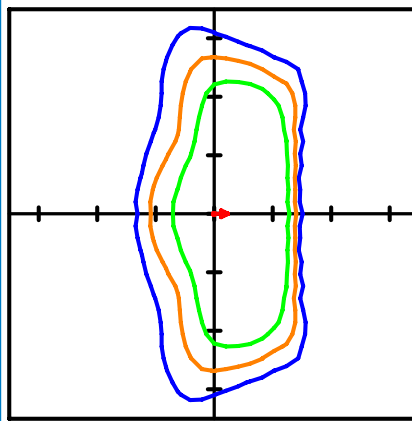
Horizontal Footcandles
 Scale: 1 inch = 25ft
 Luminaire Lumens = 21452
 Mounting Height = 25.00 Ft
 Maximum Calculated Value = 2.69 Fc



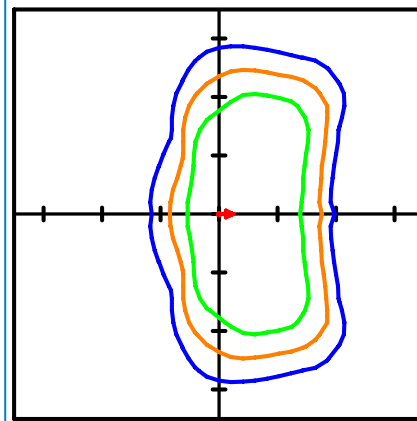
MEDIUM AREA LIGHT - 110W, 150W, 190W & 225W **OUTDOOR**

PHOTOMETRIC REPORTS

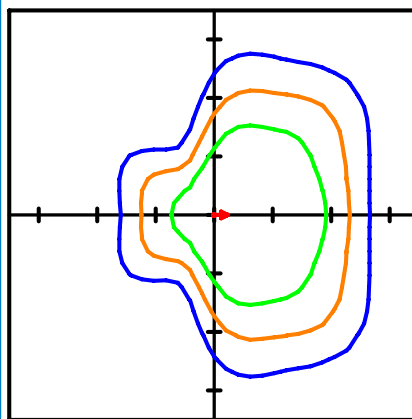
Photometric values based upon tests performed in compliance with LM-79. IES files can be downloaded at www.ilp-inc.com
 Blue = 2 fc, Orange = 1 fc, & Green = .5 fc

AL-190W-U-40-T2

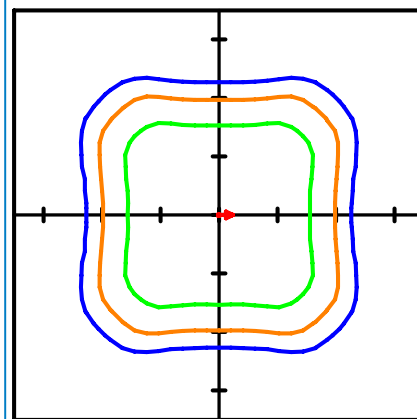
Horizontal Footcandles
 Scale: 1 inch = 25ft
 Luminaire Lumens = 26479
 Mounting Height = 25.00 Ft
 Maximum Calculated Value = 6.84 Fc

AL-190W-U-40-T3

Horizontal Footcandles
 Scale: 1 inch = 25ft
 Luminaire Lumens = 26548
 Mounting Height = 25.00 Ft
 Maximum Calculated Value = 6.86 Fc

AL-190W-U-40-T4

Horizontal Footcandles
 Scale: 1 inch = 25ft
 Luminaire Lumens = 25824
 Mounting Height = 25.00 Ft
 Maximum Calculated Value = 6.89 Fc

AL-190W-U-40-T5S

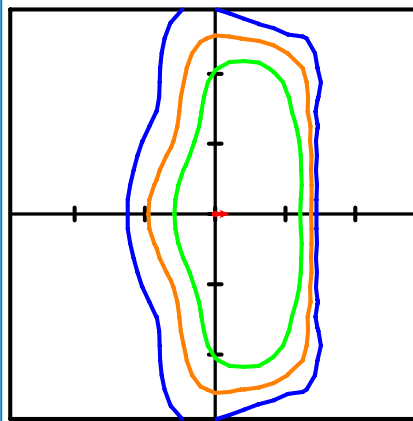
Horizontal Footcandles
 Scale: 1 inch = 25ft
 Luminaire Lumens = 26309
 Mounting Height = 25.00 Ft
 Maximum Calculated Value = 3.58 Fc



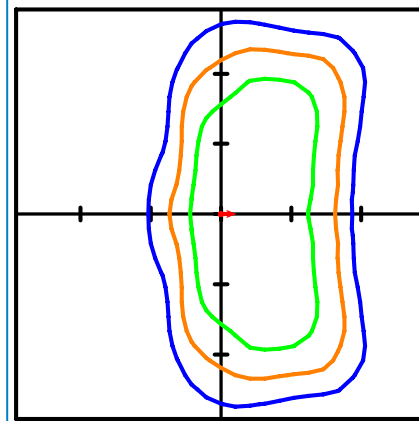
MEDIUM AREA LIGHT - 110W, 150W, 190W & 225W **OUTDOOR**

PHOTOMETRIC REPORTS

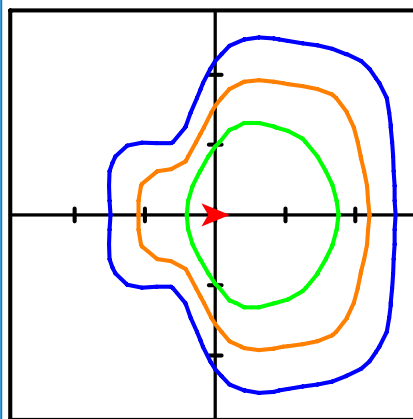
Photometric values based upon tests performed in compliance with LM-79. IES files can be downloaded at www.ilp-inc.com
 Blue = 2 fc, Orange = 1 fc, & Green = .5 fc

AL-225W-U-40-T2

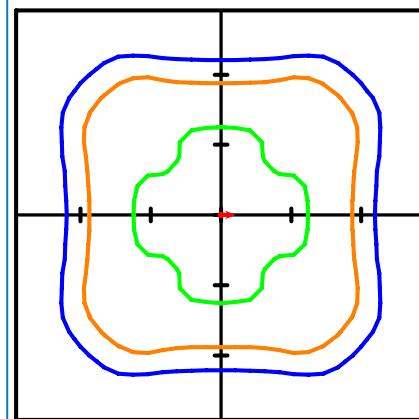
Horizontal Footcandles
 Scale: 1 inch = 25ft
 Luminaire Lumens = 30326
 Mounting Height = 30.00 Ft
 Maximum Calculated Value = 5.50 Fc

AL-225W-U-40-T3

Horizontal Footcandles
 Scale: 1 inch = 25ft
 Luminaire Lumens = 30229
 Mounting Height = 30.00 Ft
 Maximum Calculated Value = 5.35 Fc

AL-225W-U-40-T4

Horizontal Footcandles
 Scale: 1 inch = 25ft
 Luminaire Lumens = 29371
 Mounting Height = 30.00 Ft
 Maximum Calculated Value = 5.55 Fc

AL-225W-U-40-T5S

Horizontal Footcandles
 Scale: 1 inch = 25ft
 Luminaire Lumens = 30131
 Mounting Height = 30.00 Ft
 Maximum Calculated Value = 2.92 Fc



SQUARE STEEL POLES

Engineering provided for poles, PE Stamp available for additional cost.


 407-478-3759
www.ilp-inc.com

SERIES	POLE TYPE	SIZE (in)	HEIGHT (ft)	GAUGE	DRILL LEGEND OR TENON
ILPOLE	SS	4	20	11	-1
	DB	5	25	7	-2
			30		-2L
					-3T
					-4

Example: ILPOLE-SS-4-20-11-2L

- ILP Pole, Square Steel, 4", 20', 11 gauge, 2 fixtures at 90° drill pattern

DRILL LEGEND

-1	Single Fixture Drill Pattern		-3T	Three Fixture Drill Pattern	
-2	Two Fixtures at 180° Drill Pattern		-4	Four Fixtures Drill Pattern	
-2L	Two Fixtures at 90° Drill Pattern				

POLE TOP FEATURES

- Shaft - 55,000 p.s.i minimum yield
- Base Covers
- Base Plates - 36,000 p.s.i. minimum yield
- Reinforced handholes with grounding lug and removable cover
- Top tenon or drill pattern with removable pole cap
- Four galvanized anchor bolts w/ galvanized hardware
- Anchor bolt templates included
- Pre-ship anchor bolts with template - Prepay & Add
- Standard Pole Color - ILP Bronze (BRZ)
- Optional Pole Colors - Black (BLK), Silver (SLV), & White (WHT) & custom colors upon request.
- Pole Vibration Dampeners available upon request
- Limited Lifetime Warranty

FIXTURES PER POLE: AL-56/70/90/100W

Wind Speed (mph)	≤ 110	120 mph				130 mph				140 mph				150 mph			
#Fix/Pole	1-4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
ILPOLE-XX-4-20-11-X	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
ILPOLE-XX-4-20-7-X	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
ILPOLE-XX-4-25-11-X	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
ILPOLE-XX-4-25-7-X	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
ILPOLE-XX-4-30-7-X	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
ILPOLE-XX-5-25-7-X	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
ILPOLE-XX-5-30-7-X	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

FIXTURES PER POLE: AL-110/140/150/180/190/225W

Wind Speed (mph)	≤ 110	120 mph				130 mph				140 mph				150 mph			
#Fix/Pole	1-4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
ILPOLE-XX-4-20-11-X	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
ILPOLE-XX-4-20-7-X	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
ILPOLE-XX-4-25-11-X	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
ILPOLE-XX-4-25-7-X	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
ILPOLE-XX-4-30-7-X	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
ILPOLE-XX-5-25-7-X	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
ILPOLE-XX-5-30-7-X	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

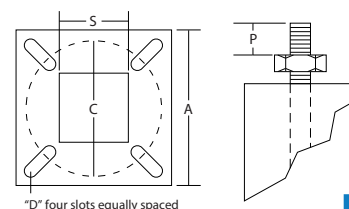
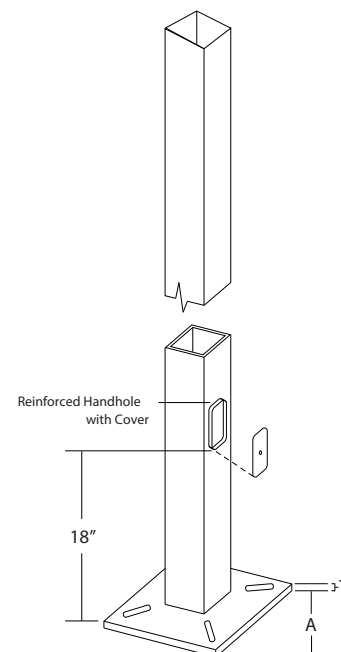
FIXTURES PER POLE: AL-270/320/375W

Wind Speed (mph)	≤ 110	120 mph				130 mph				140 mph				150 mph			
#Fix/Pole	1-4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
ILPOLE-XX-4-20-11-X	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
ILPOLE-XX-4-20-7-X	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
ILPOLE-XX-4-25-11-X	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
ILPOLE-XX-4-25-7-X	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
ILPOLE-XX-4-30-7-X	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
ILPOLE-XX-5-25-7-X	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
ILPOLE-XX-5-30-7-X	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

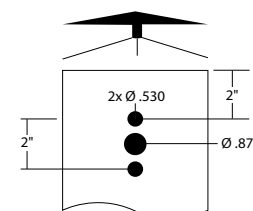
PROJECTION DRAWING LEGEND


SQUARE SHAFT SIZE [S]	SQUARE BASE SIZE [A]	BOLT CIRCLE DIAMETER [C]	SLOT SIZE [D]	SLOT RANGE	ANCHOR BOLTS	PROJECTION [P]	PLATE THICKNESS [T]
4"	10"	9"	1" x 2"	8"-10"	¾" x 20" x 3"	2"	¾"
5"	12"	11"	1¼" x 2¼"	10" - 12"	1" x 36" x 3"	2½"	1"

NOTE: ILP POLES ARE NON-RETURNABLE



Drilled Hole Pattern suitable for ARM6-S & UPMB Mounting Brackets



Submitted by LEESMAN LIGHTING	Job Name: Foreign Exchange - LEE21-44355	Catalog Number: SWP3LUCCTSBK	Type: B
		Notes:	LEE21-44355

Project Name:	Part Number:	Type:
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VALUE SLIM WALL PACK

LED SLIM PROFILE WALL PACK



407-478-3759
www.ilp-inc.com

FEATURES

- Low profile die-cast aluminum housing
- Bronze polyester powder coat finish (std.)
- Custom and factory select colors available¹
- Isolated optical compartment with tempered glass lens and silicone gaskets
- 90° adjustable Type IV distribution or Optional IDA fixed model²
- Quick mount bracket standard for easy surface mount installation
- Three ½" coin plugs on sides for conduit or electronic photocell
- 120-277V Universal Voltage or 347V-480V High Voltage³
- 0-10V Dimmable Driver (std.)
- Deep box 10W CEC Title 20 compliant battery backup & cold weather battery¹
- Optional Field Adjustable Output device (FAO) allows individual luminaire lumen output control
- 3000K, 4000K & 5000K CCT Selectable via Integral selector
- >70 Color Rendering Index (CRI)
- Calculated L₇₀ >100,000 hrs @ 25°C per TM-21-11
- IP65 Rated Luminaire
- 5 Year Warranty
- ETL Listed for Wet Locations
- DesignLights Consortium® Premium Qualified Luminaire

¹Contact factory for pricing and availability

²Fixed 3000K CCT model only

³347-480V available in 5L, 8L, 10L Lumen Packages Only



Small



Large



SUITABLE APPLICATIONS

- Pedestrian Walkways
- Building Entrances
- Multi-use Facilities
- Industrial Facilities
- Parking Lots
- Storage Facilities
- Institutions
- Schools
- Loading Docks

ORDERING GUIDE:

SERIES	LUMENS	DRIVER	CCT	FINISH
SWP Value Slim Wall Pack	2L 3L 5L 8L 10L	U 120-277V HV ³ 347-480V	CCTS Selectable CCT (5000K, 4000K, 3000K) 30°	BRZ Bronze BLK ⁴ Black WHT ⁴ White SLV ⁴ Silver

OPTIONS			
Factory Installed		Ship with Accessories	
SP1	10kA Max Univolt Surge Protection	SWP-FAO10V	Field Adjustable Output via 0-10V Wires
SP2	22kA Max 120-277V Surge Protector	SWP-ARM3-xxx	Pole Mount Arm Kit, 3" long (xxx=BRZ, BLK, WHT, SLV)
IDA ³	Dark Sky IDA Fixture Seal of Approval	SWP-BPS-xxx	18x9 Beauty Plate Kit, Small (xxx=BRZ, BLK, WHT, SLV)
LEDBB ^{1,2}	10W UNIV Battery Backup (32°-100°F)	SWP-BPL-xxx	18x9 Beauty Plate Kit, Large (xxx=BRZ, BLK, WHT, SLV)
LEDBBCT ^{1,2}	20W UNIV CT Battery Backup (-22°-122°F)		

Controls	
PCU ²	Electronic UNIV Photocell (120-277V)

¹5L, 8L, 10L Lumen Packages Only

²Not available with HV option

³Fixed to 3000K CCT and no angle adjustability for

IDA Compliance. Must choose 30 CCT and IDA option to qualify


⁴Contact Factory for pricing and availability



QUICK SHIP ITEMS:

SERIES	LUMENS	DRIVER	COLOR	FINISH
SWP Value Slim Wall Pack	2L 3L 5L 8L 10L	U 120-277V	CCTS Selectable CCT (5000K, 4000K, 3000K)	BRZ Bronze

SWPSPEC0320

Submitted by LEESMAN LIGHTING		Catalog Number: SWP3LUCCTSBK	Type: B
	Job Name: Foreign Exchange - LEE21-44355		
		Notes:	LEE21-44355



VALUE SLIM WALL PACK

LED SLIM PROFILE WALL PACK

LED SYSTEMS INFORMATION ¹	3000K		4000K		5000K		Watts ²	Replaces
	Part Numbers	Lumens	Efficacy	Lumens	Efficacy	Lumens	Efficacy	
	SWP-2L-U-CCTS	2,465 lm	122 lm/W	2,649 lm	139 lm/W	2,493 lm	125 lm/W	20 W
	SWP-3L-U-CCTS	3,160 lm	134 lm/W	3,310 lm	145 lm/W	3,226 lm	136 lm/W	24 W
	SWP-5L-U-CCTS	5,396 lm	135 lm/W	5,669 lm	147 lm/W	5,515 lm	137 lm/W	40 W
	SWP-8L-U-CCTS	8,254 lm	138 lm/W	8,678 lm	150 lm/W	8,455 lm	141 lm/W	60 W
	SWP-10L-U-CCTS	10,141 lm	136 lm/W	10,581 lm	147 lm/W	10,335 lm	138 lm/W	75 W
								100W MH
								150W MH
								175W MH
								250W MH
								320W MH

¹LED Chips are frequently updated therefore values are nominal
²Electrical data at 25°C (77°F). Actual wattage may differ by +/-10%.

SPECIFICATIONS

CONSTRUCTION

Value Slim Wall Pack luminaire features a sleek low-profile die-cast aluminum housing with matching housing styles for both a small and medium size housings. Value Slim is protected with a durable Bronze polyester powder coat finish to withstand extreme weather changes without cracking or peeling (Consult factory for availability of alternate finishes). The Adjustable head pivots up to 90° to allow for more forward throw illumination (IDA option eliminates the adjustability). Universal quick mount bracket eliminates the need to drill through the luminaire housing ensuring reliable IP65 ingress protection and fast hands-free mounting via hanging mechanism. One-piece silicone gasket seals door and back box.

ELECTRICAL

High-performance driver features over-voltage, under-voltage, short circuit and over temperature protection. 0-10V dimming (10% - 100%) standard. Standard Universal Voltage (120-277 Vac) Input 50/60 Hz or optional High Voltage (347-480 Vac). L70 >100,000 hrs. in accordance of IESNA TM-21-11 Projected values at 25°C Ambient temperature. Total harmonic distortion: <20%. Power factor: >0.90. Input power stays constant over life. Minimum 2.5kV surge rating. Optional Field Adjustable Output (FAO) accessory allows for individual lumen output control with 7 adjustable light levels per lumen package. 10W CEC Title 20 compliant battery backup & cold weather battery option available. 120-277V 10W CEC Title 20 compliant battery backup & cold weather battery options provide 90 minutes of constant power to the LED system, ensuring code compliance.

INSTALLATION

The Value Slim Wall Pack features a universal quick mount bracket, allowing for effortless installation to standard 3½" to 4" round/octagonal, 4" square, single gang, masonry junction boxes or vertical surface mounting (secured by four lag bolts (supplied by others)). ½" NPT conduit entry points allow for surface-conduit or thru-branch wiring. Back box is an authorized electrical wiring compartment. Fixture leads exit the back of the casting through a poke-in water-tight grommet. Integral CCT selector allows for toolless CCT tuning at installation.

OPTICS

The isolated silicone sealed optical chamber utilizes a proprietary high-reflective white molded baffle. Optical assembly features an impact-resistant tempered glass lens and meets IESNA requirements for full cutoff compliance. Available in five lumen packages and CCT selectable via an integral CCT selector switch (3000K, 4000K, & 5000K). The Adjustable head pivots up to 90° to allow for more forward throw illumination. IDA option is fixed 3000K and does not allow for head pivoting (full-cutoff).

THERMAL

The Value Slim Wall Pack features an array of High-efficacy mid-power LED's on a metal core circuit board. The LED board is mounted directly to a cast aluminum housing with heat dissipating fins to provide excellent thermal performance extending the life of electronic components. Operating Ambient Temperature: -40°C to +40°C (-40°F to 104°F) Operating temperature for standard battery backup: -0°C to +50°C (-32°F to +122°F), Cold Weather battery backup: -30°C to +50°C (-22°F to +122°F).

CONTROLS

Three ½" NPT apertures allow for field or factory installed 120-277V universal electronic photocell.

CERTIFICATIONS

UL Listed for wet locations. Tested in accordance with IESNA LM-79 and LM-80 standards.

WARRANTY

5 Year Warranty (Terms and Conditions apply). See Website for more details. <https://www.ilp-inc.com/documents/>



VALUE SLIM WALL PACK

LED SLIM PROFILE WALL PACK

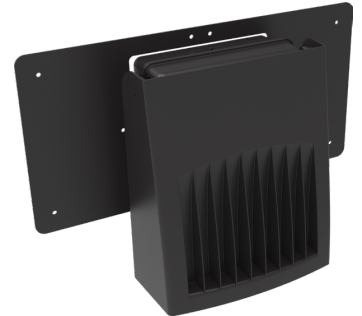
ADDITIONAL FEATURES & OPTIONS



Quick Mount Bracket



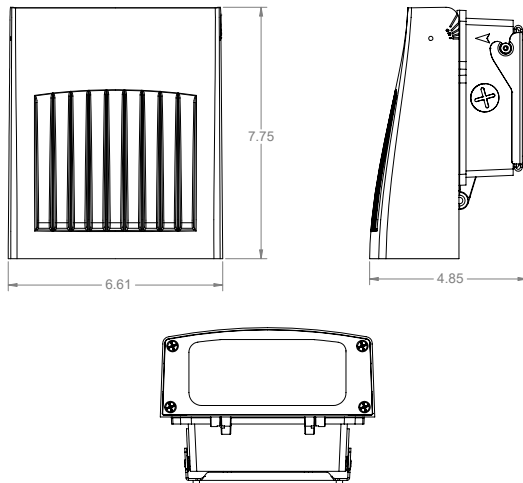
90° Adjustable Type IV Distribution



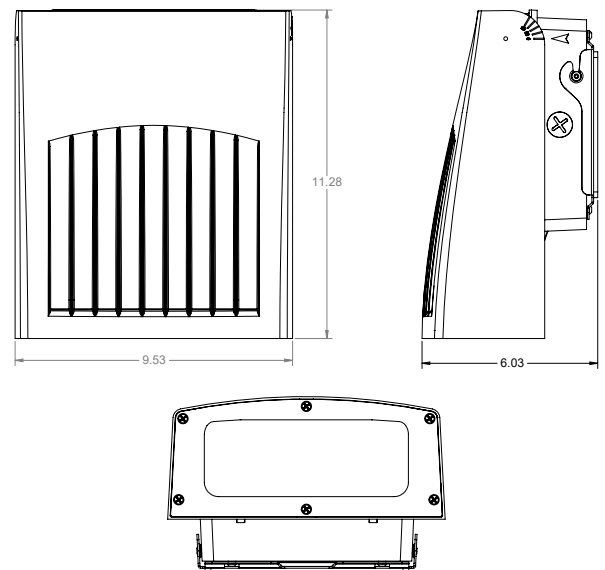
Optional Beauty Plate

LINE DRAWINGS

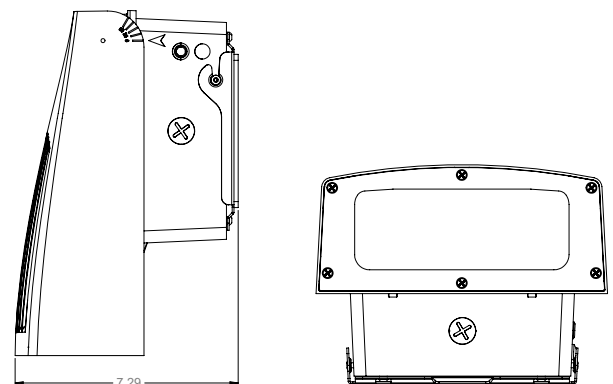
2L & 3L Small Housing



5L, 8L & 10L Large Housing



Large with Deep Box Cold Temp Battery Backup





Project Name:	Type:
Part Number:	Date:



SELECTFIT 6" RETROFIT DOWNLIGHT

SPECIFICATION FEATURES

- Mechanical** - SELECTFIT, with integrated driver, retrofits existing commercial housings and is field accessible from below the ceiling. Stainless steel spring action clips accommodate 1/2" to 2" ceiling thicknesses.
- Electrical** - Field select from three lumen outputs using SelectDrive technology. Universal 120-277V or 120V only, 50/60 Hz drivers available. Universal 0-10V drivers dimmable to 5% with low end cutoff. 120V drivers are dimmable to 10% using TRIAC or ELV dimmers.
- Optical** - Self flanged spun aluminum reflector, painted matte white. Optional clear aluminum trim insert available. High resistance polycarbonate optical lens, with smooth diffusion. 90° beam angle. Field select color temperature between either 3000K/3500K/4000K or 2700/5000K. Minimum 80 CRI.
- Thermal** - Die cast heat sink maximizes passive thermal management and achieves a L70 rated lifetime of 50,000 hours. Ambient temperature rated from -13°F to 95°F (-25°C to 35°C).
- Compliance and Warranty** - ETL Classified and Listed for wet locations. Certified air-tight per ASTM 283-04. IC Rated for direct contact with insulation. Complies with FCC 47CFR Part 15B consumer limits for EMI/RFI emissions. 5 year parts warranty for complete fixture. Optional 10 Year Extended Warranty available, subject to same terms, conditions and installation requirements as standard 5 Year Warranty.



12/2020

BENEFITS

- Field select lumen output
- Field select CCT
- Quick and easy installation
- 0-10V or 120V dimmable
- Long life time, L70 Rated for 50,000 hours

APPLICATIONS

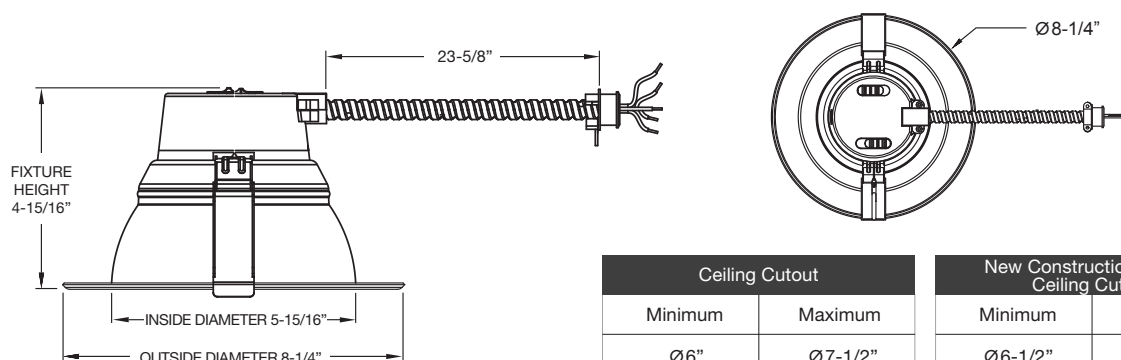
- Commercial
- Educational
- Retail
- Hospitality
- Outdoor Under Covered Ceilings

ORDERING INFORMATION

Series	Size	CRI	CCT	Dimming
<input checked="" type="checkbox"/> SLFT SELECTFIT	<input checked="" type="checkbox"/> 6 6" 700 / 1,000 / 1,500lm	<input checked="" type="checkbox"/> 80 CRI 80	<input type="checkbox"/> CCTS Selectable CCT 3000 / 3500 / 4000K	<input type="checkbox"/> DIM120V 120V - Line voltage dimming
			<input type="checkbox"/> CCT2750* Selectable CCT 2700 / 5000K	<input type="checkbox"/> DIM010UNV 120-277V - 0-10V dimming

*Available in DIM010UNV only

LINE DRAWINGS





GREENCREATIVE

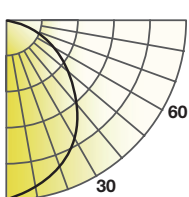
SELECTFIT 6" RETROFIT DOWNLIGHT

TECHNICAL INFORMATION

Dimming	Input Voltage	Input Frequency	Input Current	Input Power	THD Power	Power Factor
DIM120	120V	50 / 60Hz	0.07 / 0.09 / 0.13A	8 / 10 / 15W	<20%	>0.9
DIM010UNV	120V	50 / 60Hz	0.06 / 0.08 / 0.13A	8 / 10 / 15W	<20%	>0.9
	277V		0.03 / 0.04 / 0.06A			

PHOTOMETRY

SLFT6/80CCTS/DIM120V (3500K Selected, High)



Lumens: 1696 lm
Power: 15 W
Efficacy: 112 lm/W
CRI: 80+
Spacing Criteria: 1.25
Beam Angle: 89°

Candlepower Distribution

Angle (°)	Average (cd)
0	850
5	845
15	807
25	725
35	507
45	415
55	231
65	101
75	45
85	7
90	0

Initial Footcandles

Height (ft)	Fc	Diameter (ft)
8	13	15
9	10	17
10	9	19
12	6	23
15	4	29

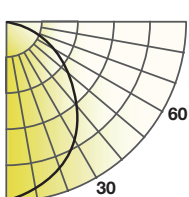
Zonal Lumen Summary

Zone	Lumens	%Fixt
0-30	639	38
0-40	1007	59
0-60	1540	91
0-90	1696	100

Lumen Output Coefficient

CCT	3000K	3500K	4000K
Low Lumen output	0.50	0.53	0.51
Med Lumen output	0.63	0.67	0.65
High Lumen output	0.95	1.00	0.97

SLFT6/80CCT2750/DIM010UNV (5000K Selected, High)



Lumens: 1573 lm
Power: 15 W
Efficacy: 107 lm/W
CRI: 80+
Spacing Criteria: 1.25
Beam Angle: 90°

Candlepower Distribution

Angle (°)	Average (cd)
0	784
5	779
15	745
25	668
35	547
45	387
55	213
65	85
75	43
85	6
90	0

Initial Footcandles

Height (ft)	Fc	Diameter (ft)
8	12	16
9	10	18
10	8	20
12	5	24
15	3	29

Zonal Lumen Summary

Zone	Lumens	%Fixt
0-30	590	38
0-40	931	59
0-60	1427	91
0-90	1573	100

Lumen Output Coefficient

CCT	2700K	5000K
Low Lumen output	0.52	0.54
Med Lumen output	0.65	0.68
High Lumen output	0.98	1.00



SELECTFIT 6" RETROFIT DOWNLIGHT

PERFORMANCE

SLFT6/80CCTS/DIMxxx – LOW/MEDIUM/HIGH – 8 / 10 / 15W - NOMINAL*

CCT	3000K			3500K			4000K		
Output	Low	Med	High	Low	Med	High	Low	Med	High
Lumens	803	1019	1529	851	1075	1605	819	1043	1557
LPW	100	102	102	106	108	107	102	104	104

SLFT6/80CCT2750/DIMxxx – LOW/MEDIUM/HIGH – 8 / 10 / 15W - NOMINAL*

CCT2750	2700K			5000K		
Output	Low	Med	High	Low	Med	High
Lumens	803	1004	1514	834	1051	1545
LPW	100	100	101	104	105	103

*The above values are nominal only and may vary slightly depending on the dimming and voltage applied

ACCESSORY ORDERING INFORMATION


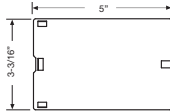

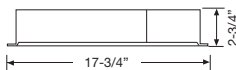

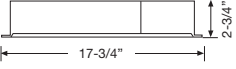
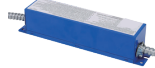
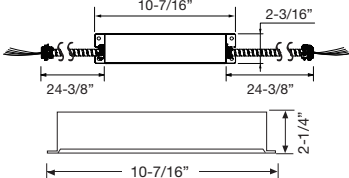
Product	Model	Description	Pictures	Dimensions
35158	SLFT/TRIM6/CC	6" Clear Trim Insert (Field Installation)		
98568	GOOFRING6	6" Goof Ring - Outer Diameter 10-1/2"		
35122	NCFJB6	New construction frame for T-Grid ceilings and stud/joist mounting		
35126	NCFBFB	Field Installable Butterfly Brackets For New Construction Frame		
35125	NCFEMB	Field Installable Emergency Bracket For New Construction Frame		
98501	NCPLATE/T4689	New Construction Plate for T-Grid ceilings		
98502	NCPLATE468	New Construction Plate for Stud/Joist ceilings		



GREENCREATIVE

SELECTFIT 6" RETROFIT DOWNLIGHT

ACCESSORY ORDERING INFORMATION

Product	Model	Description	Pictures	Dimensions
98583	NCPLATEJB	Junction box for New Construction Plates		
58012	35EMINVERTER	35W Emergency Inverter (Field Installation)		
58013	35EMINVERTER/CEC	California Title 20 Compliant 35W Emergency Inverter (Field Installation)		
98003	23EMDRIVER	California Title 20 Compliant 23W Emergency LED Driver (Field Installation)		

10 YEAR EXTENDED WARRANTY

Model	SLFT6/10YEARWARRANTY
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Drainage Analysis

for

**Foreign Exchange #5
City of Springboro
Warren County, OH
CE# 2021115
August 20, 2021**

Calibre Engineering

10534-B Success Lane
Centerville, OH 45458
Phone/Fax: 937885.9380
CalibreEng@AOL.COM



Table of Content

1. PROJECT SUMMARY

- Design Description
- Reference Exhibits
 - Regional Aerial
 - Existing Drainage Area Map
 - Proposed Drainage Area Map
 - C-3.0 Grading Plan

2. ANALYSIS CALCULATIONS

Summary

(2-year, 5-year, 10-year, 100-year)



Claude A. Harden

- Existing Conditions
 - Pre-Developed Hydrology
 - Allowable
 - Discharge
- Developed Conditions
 - Pre-Dev. Hydrology
 - Post Dev. Hydrographs
 - Storage Calculations
- Pond A
 - Stage Storage Discharge
- Basin Exhibit

3. ANALYSIS REFERENCE

- ODOT Location and Design Manual
Volume Two Drainage Design

Section One

PROJECT SUMMARY

Design Description

Reference Exhibits

Regional Aerial

Existing Drainage Area Map

Proposed Drainage Area Map

C-3.0 Grading Plan

SCS Map Data

Foreign Exchange #5 City of Springboro Warren County, OH

Overview:

The following report identifies the storm water systems for the referenced project. This report is based on the City of Springboro and Warren County Storm Water Regulations and generally accepted engineering standards and practices. It is intended to provide a theoretical analysis of the system's operation. Many factors, such as debris in catch basins, construction materials, and quality of construction can relate to the system's ultimate performance.

Project Description:

Dryden Builders is proposing to develop a Foreign Exchange auto service center at 95 W. Central, Springboro County, OH. The property is identified as Parcel ID D2020136000026 in the Butler County, Ohio records. They have asked for preliminary and final site design documents to facilitate site construction. Utilities are immediately adjacent to the site and only onsite utility service extensions are anticipated. However, waivers for the number of parking spaces and stacking have been applied for and granted by the Township BZA. The property is currently zoned to accommodate the proposed use and no additional zoning will be required. The disturbed area of the property will exceed one acre, and therefore, will require an NPDES permit. The global position of the development is Latitude **N 39° 33' 25"** and Longitude **W 84° 14' 09"**

c

Original Site Characteristics:

The property's original condition is developed as a single family residential lot.



Figure 1

Methodology:

The size of the drainage basin allows for the utilization of the Rational Formula methodology. This method is used for basins smaller than five acres and time of concentration is less than 20 minutes.

The rational formula estimates the peak rate of runoff at any location in a watershed as a function of the drainage area, runoff coefficient, and mean rainfall intensity for a duration equal to the time of concentration (the time required for water to flow from the most remote point of the basin to the location being analyzed). The rational formula, to account for higher intensity storms, is expressed as $Q = CAI$ where:

Q = maximum rate of runoff, cfs

C = runoff coefficient representing a ratio of runoff to rainfall

A = drainage area tributary to the design location, acres

I = average rainfall intensity for a duration equal to the time of concentration, for a selected return period, in/hr. $i = a/(t_c + b)^c$

Reference

ODOT L&D MANUAL

VOLUME TWO DRAINAGE DESIGN

t = time of concentration (minutes)

a = constant

b = constant

c = constant

		a	b	c
Area C	2 yr	56.299	10.00	0.876
	5 yr	67.933	11.00	0.869
	10 yr	84.550	13.00	0.882
	25 yr	95.736	14.00	0.871
	50 yr	96.783	14.00	0.850
	100 yr	80.436	11.50	0.794

Existing Conditions:

The drainage areas and patterns are based on field elevations and field observations. Currently, stormwater from the property sheet flows to the north and east. The site is located at the highpoint of the drainage area and no offsite flows are anticipated. Existing drainage from the site flows to two open ditches along north and east property lines.

Basin Analysis ~ Basin A

Existing Area Conditions

Ex. Pavement area	0.177	Acres @ C =	0.950
Ex. Grassed Area	1.559	Acres @ C =	0.300
		Acres @ C =	0.000
Farm Area		Acres @ C =	0.300
Total	1.736023	Acres @ C =	0.366

(A) Calculation for 2 year existing flow $q = Aci$

Area $\frac{\text{Area}}{\text{Intensity, I=}}$ $\frac{1.736}{5.25}$ Acres
"A" [$\frac{1.736}{5.25}$]
Runoff Coefficient, "C"=[$\frac{0.366}{1}$]
tc=[$\frac{5.00}{1}$] minutes

"q" (total allowable release rate) $A \times C \times I = \text{c.f.s.}$

A [$\frac{1.736}{5.25}$] x C [$\frac{0.366}{1}$] x i [$\frac{5.25}{1}$] = [**3.34**] c.f.s.

Pond Bypass

Ex. Pavement area	0.000	Acres @ C =	0.950
Bypassed Grass	0.195	Acres @ C =	0.300
Chanel Rip Rap	0.000	Acres @ C =	0.750
Farm Area		Acres @ C =	0.300
Total	0.195	Acres @ C =	0.300

(A) Calculation for 2 year existing flow $q = Aci$

Area $\frac{\text{Area}}{\text{Intensity, I=}}$ $\frac{0.195}{5.25}$ Acres
"A" [$\frac{0.195}{5.25}$]
Runoff Coefficient, "C"=[$\frac{0.300}{1}$]
tc=[$\frac{5.00}{1}$] minutes

"q" (bypassed release rate) $A \times C \times I = \text{c.f.s.}$

A [$\frac{0.195}{5.25}$] x C [$\frac{0.300}{1}$] x i [$\frac{5.25}{1}$] = [**0.31**] c.f.s.

Adjusted Allowable Release Rate = (Total Allowable) - (Bypass Flow)

Adjusted allowable pond release rate	3.03 c.f.s.
--------------------------------------	--------------------

Developed Conditions:

The site will be developed as a single project with a dedicated portion of the land for a single detention basin. This report will address the detention facilities used for the current development program only.

Developed Basin Conditions

Pavement area	0.598	Acres @ C =	0.950
Grassed Area	1.138	Acres @ C =	0.300
		Acres @ C =	0.950
		Acres @ C =	0.300
Total	1.736	Acres @ C =	0.524

(A) Calculation for year developed flow

Area "A" [1.736] Acres

Intensity, I = 5.25] inches/hr

Runoff Coefficient, "C" = [0.524]

tc = [5.00] minutes

Developed Basin Conditions

Pavement area	0.598	Acres @ C =	0.950
Grassed Area	1.138	Acres @ C =	0.300
		Acres @ C =	0.950
		Acres @ C =	0.300
Total	1.736	Acres @ C =	0.524

(A) Calculation for year developed flow

Area "A" [1.736] Acres

Intensity, I = 5.25] inches/hr

Runoff Coefficient, "C" = [0.524]

tc = [5.00] minutes

"q" Developed flow rate) A x C x I = c.f.s.

A [1.736] x C [0.524] x i [5.25] = [**4.78**] c.f.s.

Based on the pre and post developed runoff, the design storm is identified as a 2-year event.

Design Storm Table

Pre Development Runoff	0.603	Inches	
Post Development	0.689	Inches	14% Increase in Runoff Volume
equal or greater than (percent)	less than (percent)	Storm Frequency (year)	Design Criteria Frequency
0	10	1	***
10	20	2	Design Storm
20	50	5	***
50	100	10	***
100	250	25	***
200	500	50	***
500	-	100	***

Flows from the detention basin will be controlled through an outlet structure with a 10" diameter orifice at an elevation of 789.43 and an overflow at 787.00. Based on the configuration of the pond and the outlet structure, the stage storage is as follows:

STAGE STORAGE DISCHARGE ANALYSIS

Elev.	Height	Contour Area	Incremental	Storage Accumulated	Combined Discharge
785.43	Ft.	0 SF	0 CFT	0 CFT	0.000 CFS
786.00	0.57 Ft.	2,531 SF	721 CFT	721 CFT	0.000 CFS
787.00	1.57 Ft.	4,772 SF	3,652 CFT	4,373 CFT	1.131 CFS
788.00	2.57 Ft.	6,304 SF	5,538 CFT	9,911 CFT	3.102 CFS
789.00	3.57 Ft.	7,619 SF	6,962 CFT	16,872 CFT	4.239 CFS
789.50	4.07 Ft.	9,449 SF	4,267 CFT	21,139 CFT	4.705 CFS

OUTLET STRUCTURE ANALYSIS

Inv. El. 785.43 Dia. (in) 8.00 Primary Outlet $Q = C * A * (2 * G * H)^{.5}$ C = 0.66				Inv. El. 787.00 Weir 6.00 Ft. Length= Secondary Outlet Rec. Weir $Q = C * L * (H^{.66})$ C = 4.00				Overflow Elevation 788.00 Combined Flows
Elev.	Height							
785.43	0.00 Ft.	0.000	CFS	785.43	0.000	CFS	0.000	CFS
786.00	0.57 Ft.	0.000	CFS	786.00	0.000	CFS	0.000	CFS
787.00	1.57 Ft.	1.131	CFS	787.00	0.000	CFS	1.131	CFS
788.00	2.57 Ft.	3.102	CFS	788.00	0.000	CFS	3.102	CFS
789.00	3.57 Ft.	4.239	CFS	789.00	0.000	CFS	4.239	CFS
789.50	4.07 Ft.	4.705	CFS	789.50	0.000	CFS	4.705	CFS

Summary:

		(A) Calculation for With a	2 year 2 year	existing flow developed flow		
Required Storage		1,867	CFT	@ an allowable flow of	3.03	CFS
Storage provided						
786.00	0.57	721	-----		0.00	CFS
786.31	0.88	1867	CFT Prov.	100% @ a discharge flow of	0.35	CFS
787.00	1.57	4373	-----		1.13	CFS
				Allowable Discharge Difference	3.03 -2.68	CFS CFS
		100%	Required storage provided		3.19	Ft. of Freeboard
		(A) Calculation for With a	2 year 5 year	existing flow developed flow		
Required Storage		2,770	CFT	@ an allowable flow of	3.03	CFS
Storage provided						
786.00	0.57	721	-----		0.00	CFS
786.56	1.13	2770	CFT Prov.	100% @ a discharge flow of	0.63	CFS
787.00	1.57	4373	-----		1.13	CFS
				Allowable Discharge Difference	3.03 -2.40	CFS CFS
		100%	Required storage provided		2.94	Ft. of Freeboard
		(A) Calculation for With a	2 year 10 year	existing flow developed flow		
Required Storage		3,408	CFT	@ an allowable flow of	3.03	CFS
Storage provided						
786.00	0.57	721	-----		0.00	CFS
786.74	1.31	3408	CFT Prov.	100% @ a discharge flow of	0.83	CFS
787.00	1.57	4373	-----		1.13	CFS
0	0.00"	0				
				Allowable Discharge Difference	3.03 -2.20	CFS CFS
		100%	Required storage provided		2.76	Ft. of Freeboard
		(A) Calculation for With a	100 year 100 year	existing flow developed flow		
Required Storage		3,138	CFT	@ an allowable flow of	4.95	CFS
Storage provided						
787.00	1.57	4373	-----		1.13	CFS
787.15	1.72	5186	CFT Prov.	165% @ a discharge flow of	4.95	CFS
788.00	2.57	9911	-----		27.10	CFS
				Allowable Discharge Difference	4.95 0.00	CFS CFS
		165%	Required storage provided		2.35	Ft. of Freeboard

The allowable discharge does not exceed the flow required during the 2, 5, 10, 25 and 100 Year Design Storm Events.

Reference Materials:

OHIO DEPARTMENT OF TRANSPORTATION
[LOCATION AND DESIGN MANUAL VOLUME TWO DRAINAGE DESIGN](#)


General Notes – Figures 1101-2 through 1101-3

Soil Map—Warren County, Ohio
(Foreign Exchange, Springboro, OH)



MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features



Blowout



Borrow Pit



Clay Spot



Closed Depression



Gravel Pit



Gravelly Spot



Landfill



Lava Flow



Marsh or swamp



Mine or Quarry



Miscellaneous Water



Perennial Water



Rock Outcrop



Saline Spot



Sandy Spot



Severely Eroded Spot



Sinkhole



Slide or Slip



Sodic Spot



Spoil Area



Stony Spot



Very Stony Spot



Wet Spot



Other



Special Line Features

Water Features



Streams and Canals

Transportation



Rails



Interstate Highways



US Routes



Major Roads



Local Roads

Background



Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service

Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Warren County, Ohio

Survey Area Data: Version 19, Jun 11, 2020

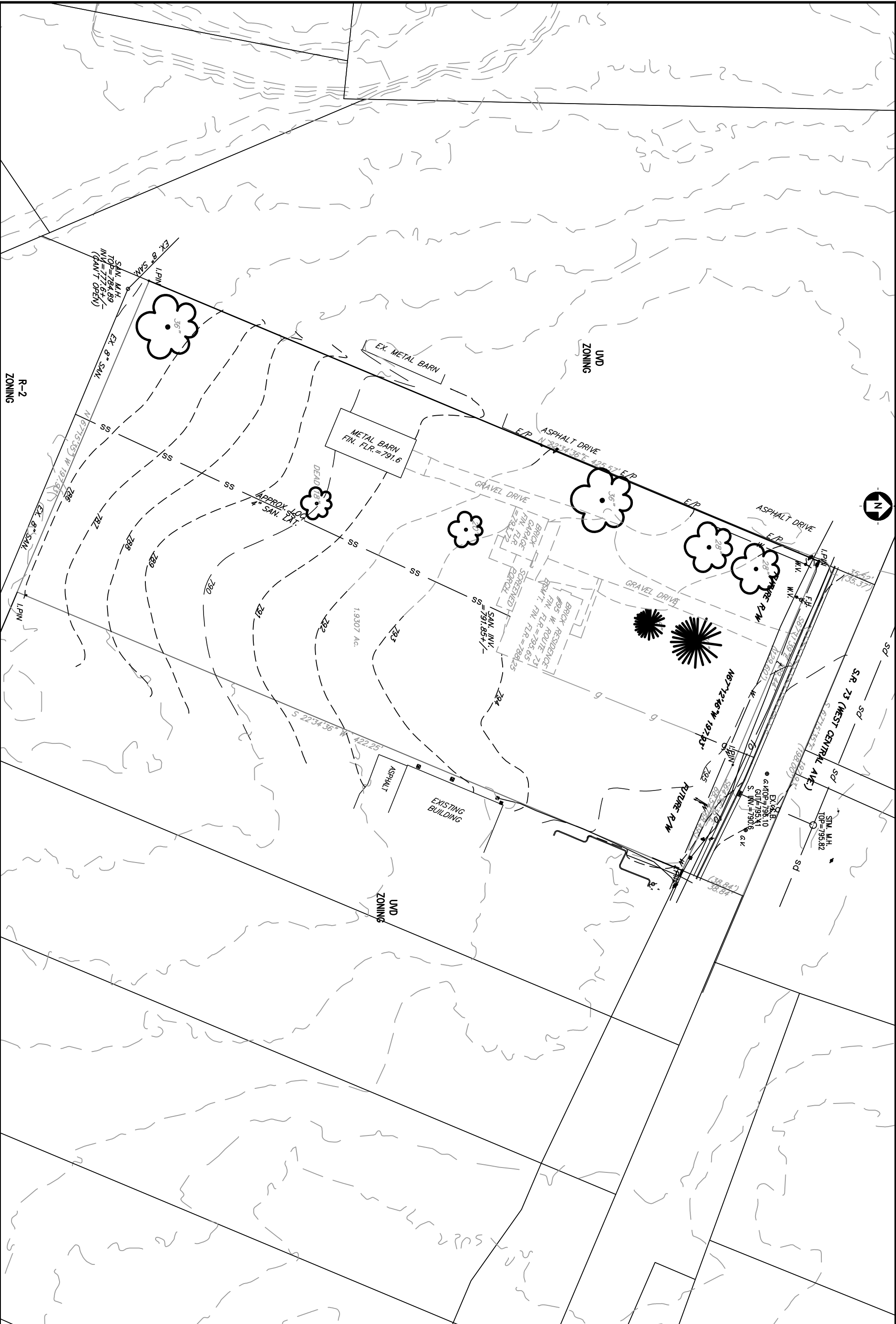
Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Oct 28, 2019—Dec 5, 2019

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
RvB	Russell-Miamian silt loams, 2 to 6 percent slopes	1.0	49.5%
RvB2	Russell-Miamian silt loams, 2 to 6 percent slopes, moderately eroded	1.0	50.5%
Totals for Area of Interest		2.1	100.0%



Section Two

ANALYSIS CALCULATIONS

Summary

(2-year, 5-year, 10-year, 100-year)

Existing Conditions
Pre-Developed Hydrology
Allowable Discharge

Developed Conditions
Pre-Dev. Hydrology
Post Dev. Hydrographs
Storage Calculations

Pond A
Stage Storage Discharge

Basin Exhibit

Worksheet 4 Graphical Peak Discharge Method

Project	Foregin Exchange	Date:	20-Aug-21
Location	95 W Central, Springboro, Warren Co, OH		
Condition	Predeveloped		

1. Data					0.00271 mi2
Drainage Area			1.74	S=	3.88888889
Offsite Pvmt	98.00		0.000		
Offsite Grass	69.00		0.000		
Ex Imp	98.00		0.177		
Ex. Field	69.00		1.560		
Weighted Cn Value			71.955		
Runoff Curve Number (CN)			72.000	Pasture	
Time of Concentration (TC)			0.10		
Rainfall Distribution Type			II	For all Cals in this sheet	

2. Frequency	1 Year	10 Year	100 Year	
3. Precipitation	2.64 In.	4.08 In.	5.76 In.	
4. Initial Abstraction ~ Ia	0.778	0.778	0.778	Ia= 0.2*S
5. Computed ~ Ia/P	0.295	0.191	0.135	
6. qu	938.60	938.60	938.60	From Exhibit 4
7. Runoff Q in inches	0.603	1.516	2.798	$Q = \frac{(P-Ia)^2}{(P-Ia)+S}$
8. Pond Factor ~ Fp	1.00	1.00	1.00	Pond Swamp & Adj. Factor
9. Peak Discharge qp	1.54 CFS	3.86 CFS	7.13 CFS	qp = qu * Am * Q * Fq

Exhibit 4

log(qu)=	C0 +	C1*log(Tc) +	C2*log(Tc)^2
2.97248	2.46769	0.62264	-0.11785
Ia/P	C0	C1	C2
0.10	2.55323	-0.62512	-0.16403
0.29	2.46769	-0.62264	-0.11785
0.30	2.46532	-0.62257	-0.11657

Table F-1 Type II Storm

Ia/P	C0	C1	C2
0.10	2.55323	-0.62512	-0.16403
0.30	2.46532	-0.62257	-0.11657
0.35	2.41896	-0.61594	-0.08820
0.40	2.36409	-0.59857	-0.05621
0.45	2.29238	-0.57005	-0.02281
0.50	2.20282	-0.51599	-0.12590

Design Storm Table

Pre Development Runoff	0.603	Inches	
Post Development	0.689	Inches	14% Increase in Runoff Volume
equal or greater than (percent)	less than (percent)	Storm Frequency (year)	Design Criteria Frequency
0	10	1	***
10	20	2	Design Storm
20	50	5	***
50	100	10	***
100	250	25	***
200	500	50	***
500	-	100	***

Worksheet 4 Graphical Peak Discharge Method

Project	Foregin Exchange	Date:	20-Aug-21
Location	95 W Central, Springboro, Warren Co, OH		
Condition	Developed Condition		

1. Data				0.00271 mi ²
Drainage Area		1.74	S=	3.513513514
Offsite Pvmt	98.00	0.000		
Offsite Grass	69.00	0.000		
Dev. Imp	98.00	0.598		
Dev Grass	61.00	1.138		
Weighted Cn Value		73.745		
Runoff Curve Number (CN)		74.000	Developed Condition	
Time of Concentration (TC)		0.10		
Rainfall Distribution Type		II	For all Cals in this sheet	

2. Frequency	1 Year	10 Year	100 Year	
3. Precipitation	2.64 In.	4.08 In.	5.76 In.	
4. Initial Abstraction ~ Ia	0.703	0.703	0.703	Ia= 0.2*S
5. Computed ~ Ia/P	0.266	0.172	0.122	
6. qu	951.90	951.90	951.90	From Exhibit 4
7. Runoff Q in inches	0.689	1.655	2.984	$Q = \frac{(P-Ia)^2}{(P-Ia)+S}$
8. Pond Factor ~ Fp	1.00	1.00	1.00	Pond Swamp & Adj. Factor
9. Peak Discharge qp	1.78 CFS	4.27 CFS	7.71 CFS	qp = qu * Am * Q * Fq

Exhibit 4

log(qu)=	C0 +	C1*log(Tc) +	C2*log(Tc)^2
2.97859	2.48019	0.62300	-0.12460
Ia/P	C0	C1	C2
0.10	2.55323	-0.62512	-0.16403
0.27	2.48019	-0.62300	-0.12460
0.30	2.46532	-0.62257	-0.11657

Table F-1 Type II Storm

Ia/P	C0	C1	C2
0.10	2.55323	-0.62512	-0.16403
0.30	2.46532	-0.62257	-0.11657
0.35	2.41896	-0.61594	-0.08820
0.40	2.36409	-0.59857	-0.05621
0.45	2.29238	-0.57005	-0.02281
0.50	2.20282	-0.51599	-0.12590

Design Storm Table

Pre Development Runoff	0.603	Inches	
Post Development	0.689	Inches	14% Increase in Runoff Volume
equal or greater than (percent)	less than (percent)	Storm Frequency (year)	Design Criteria Frequency
0	10	1	***
10	20	2	Design Storm
20	50	5	***
50	100	10	***
100	250	25	***
200	500	50	***
500	-	100	***

Storm Water Detention Analysis Summary

Project: Foregin Exchange
Location: 95 W Central, Springboro, Warren Co, OH

Date: 20-Aug-21
Design By: CAH

(A) Calculation for 2 year existing flow With a 2 year developed flow					
Required Storage	1,867 CFT	@ an allowable flow of			3.03 CFS
Storage provided					
786.00	0.57	721	-----		0.00 CFS
786.31	0.88	1867 CFT Prov.	100%	@ a discharge flow of	0.35 CFS
787.00	1.57	4373	-----		1.13 CFS
Allowable Discharge					3.03 CFS
Difference					-2.68 CFS
100% Required storage provided					3.19 Ft. of Freeboard

(A) Calculation for 2 year existing flow With a 5 year developed flow					
Required Storage	2,770 CFT	@ an allowable flow of			3.03 CFS
Storage provided					
786.00	0.57	721	-----		0.00 CFS
786.56	1.13	2770 CFT Prov.	100%	@ a discharge flow of	0.63 CFS
787.00	1.57	4373	-----		1.13 CFS
Allowable Discharge					3.03 CFS
Difference					-2.40 CFS
100% Required storage provided					2.94 Ft. of Freeboard

(A) Calculation for 2 year existing flow With a 10 year developed flow					
Required Storage	3,408 CFT	@ an allowable flow of			3.03 CFS
Storage provided					
786.00	0.57	721	-----		0.00 CFS
786.74	1.31	3408 CFT Prov.	100%	@ a discharge flow of	0.83 CFS
787.00	1.57	4373	-----		1.13 CFS
0	0.00"	0	Allowable Discharge		3.03 CFS
Difference					-2.20 CFS
100% Required storage provided					2.76 Ft. of Freeboard

(A) Calculation for 100 year existing flow With a 100 year developed flow					
Required Storage	3,138 CFT	@ an allowable flow of			4.95 CFS
Storage provided					
787.00	1.57	4373	-----		1.13 CFS
787.15	1.72	5186 CFT Prov.	165%	@ a discharge flow of	4.95 CFS
788.00	2.57	9911	-----		27.10 CFS
Allowable Discharge					4.95 CFS
Difference					0.00 CFS
165% Required storage provided					2.35 Ft. of Freeboard

Storm Water Detention Analysis

Project: Foregin Exchange
Location: 95 W Central, Springboro, Warren Co, OH

Date: 20-Aug-21
Design By: CAH

Basin Analysis ~ Basin A

WORKSHEET 3: TIME OF CONCENTRATION (Tc) OR TRAVEL TIME (Tt)

Date: 20-Aug-21

Sheet Flow (Applicable to Tc only)

Storm #1

- Segment ID
1. Surface description (table 3-1).....
 2. Manning's roughness coeff., n (table 3-1)
 3. Flow length, L (total L < 300 ft) ft
 4. Two-yr , I..... in/hr
 5. Land slope, s..... ft/ft
 6. $Tt = \frac{0.93(nL)^{0.6}}{I^{0.4} s^{0.3}}$ Compute Tt-hr

Short Grass		
0.1		
50		
3.06		
0.1		
3.11584884	+	0 0.05

Shallow Concentrated Flow

- Segment ID
7. Surface description (paved or unpaved).....
 8. Flow length, L..... ft
 9. Watercourse slope, s..... ft/ft
 10. Average velocity, V (fig 3-1)..... ft/s
 11. $Tt = L/(3600V)$ Compute Tt..... hr

Grassed		
300		
0.04		
2		
0.04166667	+	0 0.04167

Channel Flow

- Segment ID
12. Cross sectional flow area, a..... ft²
 13. Wetted perimeter, Pw..... ft
 14. Hydraulic radius, r = a/Pw..... ft
 15. Channel slope, s..... ft/ft
 16. Manning's roughness coeff., n.....
 17. $V = (1.49)r^{0.67}s^{0.5}/n$ ft/s
 18. Flow length, L..... ft
 19. $Tt = L/(3600V)$ Compute Tt..... hr
 20. Watershed or subarea Tc or Tt (add Tt in steps 6, 11 and 19)..... hr

0	+	0 0
		0.09 HR
		6 Min

Storm Water Detention Analysis

Project: Foreign Exchange
Location: 95 W Central, Springboro, Warren Co, OH
 0

Date: 20-Aug-21
Design By: CAH

Basin Analysis ~ Basin A

Existing Area Conditions

Ex. Pavement area	0.177	Acres @ C =	0.950
Ex. Grassed Area	1.559	Acres @ C =	0.300
		Acres @ C =	0.000
Farm Area		Acres @ C =	0.300
Total	1.7360226	Acres @ C =	0.366

(A) Calculation for 2 year existing flow $q=Aci$
 Area "A" [1.736] Acres Runoff Coefficient, "C"=[0.366]
 Intensity, I=[5.25] inches/hr $tc=[5.00]$ minutes
 "q" (total allowable release rate) $A \times C \times I = \text{c.f.s.}$
 $A [1.736] \times C [0.366] \times i [5.25] = [3.34] \text{ c.f.s.}$

Pond Bypass

Ex. Pavement area	0.000	Acres @ C =	0.950
Bypassed Grass	0.195	Acres @ C =	0.300
Chanel Rip Rap	0.000	Acres @ C =	0.750
Farm Area		Acres @ C =	0.300
Total	0.195	Acres @ C =	0.300

(A) Calculation for 2 year existing flow $q=Aci$
 Area "A" [0.195] Acres Runoff Coefficient, "C"=[0.300]
 Intensity, I=[5.25] inches/hr $tc=[5.00]$ minutes
 "q" (bypassed release rate) $A \times C \times I = \text{c.f.s.}$
 $A [0.195] \times C [0.300] \times i [5.25] = [0.31] \text{ c.f.s.}$

Adjusted Allowable Release Rate = (Total Allowable) - (Bypass Flow)

Adjusted allowable pond release rate 3.03 c.f.s.

Developed Basin Conditions

Pavement area	0.598	Acres @ C =	0.950
Grassed Area	1.138	Acres @ C =	0.300
		Acres @ C =	0.950
		Acres @ C =	0.300
Total	1.736	Acres @ C =	0.524

(A) Calculation for 2 year developed flow $q=Aci$
 Area "A" [1.736] Acres Runoff Coefficient, "C"=[0.524]
 Intensity, I=[5.25] inches/hr $tc=[5.00]$ minutes
 "q" Developed flow rate) $A \times C \times I = \text{c.f.s.}$
 $A [1.736] \times C [0.524] \times i [5.25] = [4.78] \text{ c.f.s.}$

Time	Intensity		
5 Min	5.25 In/Hr	2 year	Post Development
5 Min	5.25 In/Hr	2 year	Pre Development

$$i = a / (t_c + b)^c$$

Where: i = rainfall intensity (inches/hour)

t = time of concentration (minutes)

a = constant

b = constant

c = constant

Reference

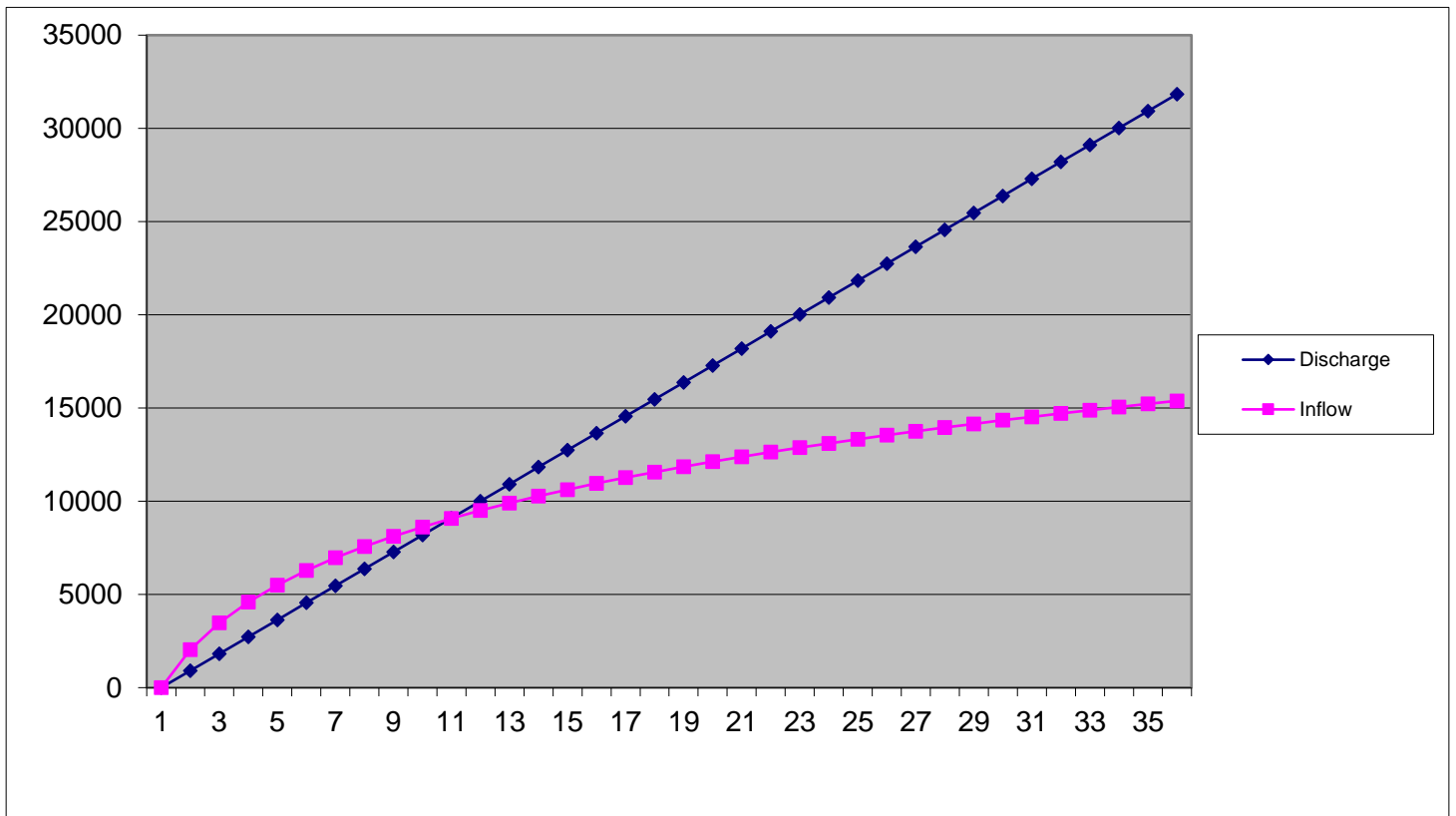
ODOT L&D MANUAL

VOLUME TWO DRAINAGE DESIGN

		a	b	c
Area C	2 yr	56.299	10.00	0.876
	5 yr	67.933	11.00	0.869
	10 yr	84.550	13.00	0.882
	25 yr	95.736	14.00	0.871
	50 yr	96.783	14.00	0.850
	100 yr	80.436	11.50	0.794

	Time	Intensity	Allowable Flow	Developed Flow	Stored Flow	Stored Volume	Storage Cft.	Acre Ft.
1	0	7.49	3.03	6.81	3.78	1,134	1,134	0.0260
2	5	5.25	3.03	4.78	1.74	523	1,657	0.0380
3	10	4.08	3.03	3.71	0.68	204	1,861	0.0427
4	15	3.36	3.03	3.05	0.02	6	1,867	0.0429
5	20	2.86	3.03	2.60	-0.43	-129	1,738	0.0399
6	25	2.50	3.03	2.27	-0.76	-228	1,511	0.0347
7	30	2.22	3.03	2.02	-1.01	-303	1,208	0.0277
8	35	2.01	3.03	1.82	-1.21	-362	846	0.0194
9	40	1.83	3.03	1.66	-1.37	-411	435	0.0100
10	45	1.68	3.03	1.53	-1.50	-451	-16	-0.0004
11	50	1.56	3.03	1.42	-1.61	-484	-500	-0.0115
12	55	1.45	3.03	1.32	-1.71	-513	-1,013	-0.0233
13	60	1.36	3.03	1.24	-1.79	-538	-1,551	-0.0356
14	65	1.28	3.03	1.17	-1.87	-560	-2,111	-0.0485
15	70	1.21	3.03	1.10	-1.93	-579	-2,690	-0.0618
16	75	1.15	3.03	1.05	-1.99	-596	-3,286	-0.0754
17	80	1.09	3.03	0.99	-2.04	-611	-3,897	-0.0895
18	85	1.04	3.03	0.95	-2.08	-625	-4,523	-0.1038
19	90	1.00	3.03	0.91	-2.13	-638	-5,160	-0.1185
20	95	0.95	3.03	0.87	-2.16	-649	-5,810	-0.1334
21	100	0.92	3.03	0.83	-2.20	-660	-6,469	-0.1485
22	105	0.88	3.03	0.80	-2.23	-669	-7,138	-0.1639
23	110	0.85	3.03	0.77	-2.26	-678	-7,816	-0.1794
24	115	0.82	3.03	0.75	-2.29	-686	-8,502	-0.1952
25	120	0.79	3.03	0.72	-2.31	-694	-9,196	-0.2111
26	125	0.77	3.03	0.70	-2.34	-701	-9,896	-0.2272
27	130	0.74	3.03	0.67	-2.36	-707	-10,603	-0.2434

28	135	0.72	3.03	0.65	-2.38	-713	-11,317	-0.2598
29	140	0.70	3.03	0.64	-2.40	-719	-12,036	-0.2763
30	145	0.68	3.03	0.62	-2.41	-724	-12,760	-0.2929
31	150	0.66	3.03	0.60	-2.43	-730	-13,490	-0.3097
32	155	0.64	3.03	0.58	-2.45	-734	-14,224	-0.3265
33	160	0.63	3.03	0.57	-2.46	-739	-14,963	-0.3435
34	165	0.61	3.03	0.56	-2.48	-743	-15,706	-0.3606
35	170	0.60	3.03	0.54	-2.49	-747	-16,453	-0.3777
36	175	0.58						



Storm Water Detention Analysis

Project: Foregin Exchange
Location: 95 W Central, Springboro, Warren Co, OH
 0

Date: 20-Aug-21
Design By: CAH

STAGE STORAGE DISCHARGE ANALYSIS

Elev.	Height	Contour Area	Incremental Storage	Accumulated Storage	Combined Discharge	
785.43	Ft.	0 SF	0 CFT	0 CFT	0.000	CFS
786.00	0.57 Ft.	2,531 SF	721 CFT	721 CFT	0.000	CFS
787.00	1.57 Ft.	4,772 SF	3,652 CFT	4,373 CFT	1.131	CFS
788.00	2.57 Ft.	6,304 SF	5,538 CFT	9,911 CFT	27.102	CFS
789.00	3.57 Ft.	7,619 SF	6,962 CFT	16,872 CFT	42.161	CFS
789.50	4.07 Ft.	9,449 SF	4,267 CFT	21,139 CFT	48.645	CFS

Required Storage 1,867 CFT @ an allowable flow of 3.03 CFS

Storage provided

786.00	0.57	721	-----		0.00 CFS
786.31	0.88	1867 CFT Prov.	100%	@ a discharge flow of	0.35 CFS
787.00	1.57	4373	-----		1.13 CFS
Allowable Discharge					3.03 CFS
Difference					-2.68 CFS
100% Required storage provided					3.19 Ft. of Freeboard

Basin Analysis ~ Basin A

OUTLET STRUCTURE ANALYSIS

Inv. El. 785.43
 Dia. (in) 8.00
 Primary Outlet
 $Q = C * A * (2 * G * H)^{.5}$
 C = 0.66

Inv. El. 787.00
 Weir Length= **6.00 Ft.**
 Secondary Outlet
 Rec. Weir $Q = C * L * (H^{.66})$
 C = 4.00

Overflow
 Elevation 788.00
 Combined Flows

Elev.	Height	Primary Outlet	Secondary Outlet	Combined Flows
785.43	0.00 Ft.	0.000 CFS	0.00 0.000 CFS	0.000 CFS
786.00	0.57 Ft.	0.000 CFS	0.00 0.000 CFS	0.000 CFS
787.00	1.57 Ft.	1.131 CFS	0.00 0.000 CFS	1.131 CFS
788.00	2.57 Ft.	3.102 CFS	1.00 24.000 CFS	27.102 CFS
789.00	3.57 Ft.	4.239 CFS	2.00 37.922 CFS	42.161 CFS
789.50	4.07 Ft.	4.705 CFS	2.50 43.939 CFS	48.645 CFS

Storm Water Detention Analysis

Project: Foregin Exchange
Location: 95 W Central, Springboro, Warren Co, OH

Date: 20-Aug-21
Design By: CAH

Basin Analysis ~ Basin A

WORKSHEET 3: TIME OF CONCENTRATION (Tc) OR TRAVEL TIME (Tt)

Date: 20-Aug-21

Sheet Flow (Applicable to Tc only)

Storm #1

- Segment ID
1. Surface description (table 3-1).....
 2. Manning's roughness coeff., n (table 3-1)
 3. Flow length, L (total L < 300 ft) ft
 4. Two-yr , I..... in/hr
 5. Land slope, s..... ft/ft
 6. $Tt = \frac{0.93(nL)^{0.6}}{I^{0.4} s^{0.3}}$ Compute Tt-hr

Short Grass		
0.1		
50		
3.06		
0.1		
3.11584884	+	0 0.05

Shallow Concentrated Flow

- Segment ID
7. Surface description (paved or unpaved).....
 8. Flow length, L..... ft
 9. Watercourse slope, s..... ft/ft
 10. Average velocity, V (fig 3-1)..... ft/s
 11. $Tt = L/(3600V)$ Compute Tt..... hr

Grassed		
300		
0.04		
2		
0.04166667	+	0 0.04167

Channel Flow

- Segment ID
12. Cross sectional flow area, a..... ft²
 13. Wetted perimeter, Pw..... ft
 14. Hydraulic radius, r = a/Pw..... ft
 15. Channel slope, s..... ft/ft
 16. Manning's roughness coeff., n.....
 17. $V = (1.49)r^{0.67}s^{0.5}/n$ ft/s
 18. Flow length, L..... ft
 19. $Tt = L/(3600V)$ Compute Tt..... hr
 20. Watershed or subarea Tc or Tt (add Tt in steps 6, 11 and 19)..... hr

0	+	0 0
		0.09 HR
		6 Min

Storm Water Detention Analysis

Project: Foregin Exchange
Location: 95 W Central, Springboro, Warren Co, OH
0

Date: 20-Aug-21
Design By: CAH

Basin Analysis ~ Basin A

Existing Area Conditions

Pavement area	0.177	Acres @ C =	0.950
Grassed Area	1.559	Acres @ C =	0.300
	0.000	Acres @ C =	0.000
Farm Area	0.000	Acres @ C =	0.300
Total	1.736	Acres @ C =	0.366

(A) Calculation for 2 year existing flow $q=Aci$
Area "A" [1.736] Acres Runoff Coefficient, "C"=[0.366]
Intensity, I= 5.25] inches/hr $tc=[5.00]$ minutes
"q" (total allowable release rate) $A \times C \times I = \text{c.f.s.}$
 $A [1.736] \times C [0.366] \times i [5.25] = [3.34] \text{ c.f.s.}$

Pond Bypass

Pavement area	0.000	Acres @ C =	0.950
Grassed Area	0.195	Acres @ C =	0.300
Chanel Rip Rap	0.000	Acres @ C =	0.750
Farm Area	0.000	Acres @ C =	0.300
Total	0.195	Acres @ C =	0.300

(A) Calculation for 2 year existing flow $q=Aci$
Area "A" [0.195] Acres Runoff Coefficient, "C"=[0.300]
Intensity, I= 5.25] inches/hr $tc=[5.00]$ minutes
"q" (bypassed release rate) $A \times C \times I = \text{c.f.s.}$
 $A [0.195] \times C [0.300] \times i [5.25] = [0.31] \text{ c.f.s.}$

Adjusted Allowable Release Rate = (Total Allowable) - (Bypass Flow)

Adjusted allowable pond release rate 3.03 c.f.s.

Developed Basin Conditions

Pavement area	0.598	Acres @ C =	0.950
Grassed Area	1.138	Acres @ C =	0.300
Bypass Area	0.000	Acres @ C =	0.950
Bypass Area	0.000	Acres @ C =	0.300
Total	1.736	Acres @ C =	0.524

(A) Calculation for 5 year developed flow $q=Aci$
Area "A" [1.736] Acres Runoff Coefficient, "C"=[0.524]
Intensity, I= 6.11] inches/hr $tc=[5.00]$ minutes
"q" Developed flow rate) $A \times C \times I = \text{c.f.s.}$
 $A [1.736] \times C [0.524] \times i [6.11] = [5.55] \text{ c.f.s.}$

Time	Intensity		
5 Min	6.11 In/Hr	5 year	Post Development
5 Min	5.25 In/Hr	2 year	Pre Development

$$i = a / (t_c + b)^c$$

Where: i = rainfall intensity (inches/hour)

t = time of concentration (minutes)

a = constant

b = constant

c = constant

Reference

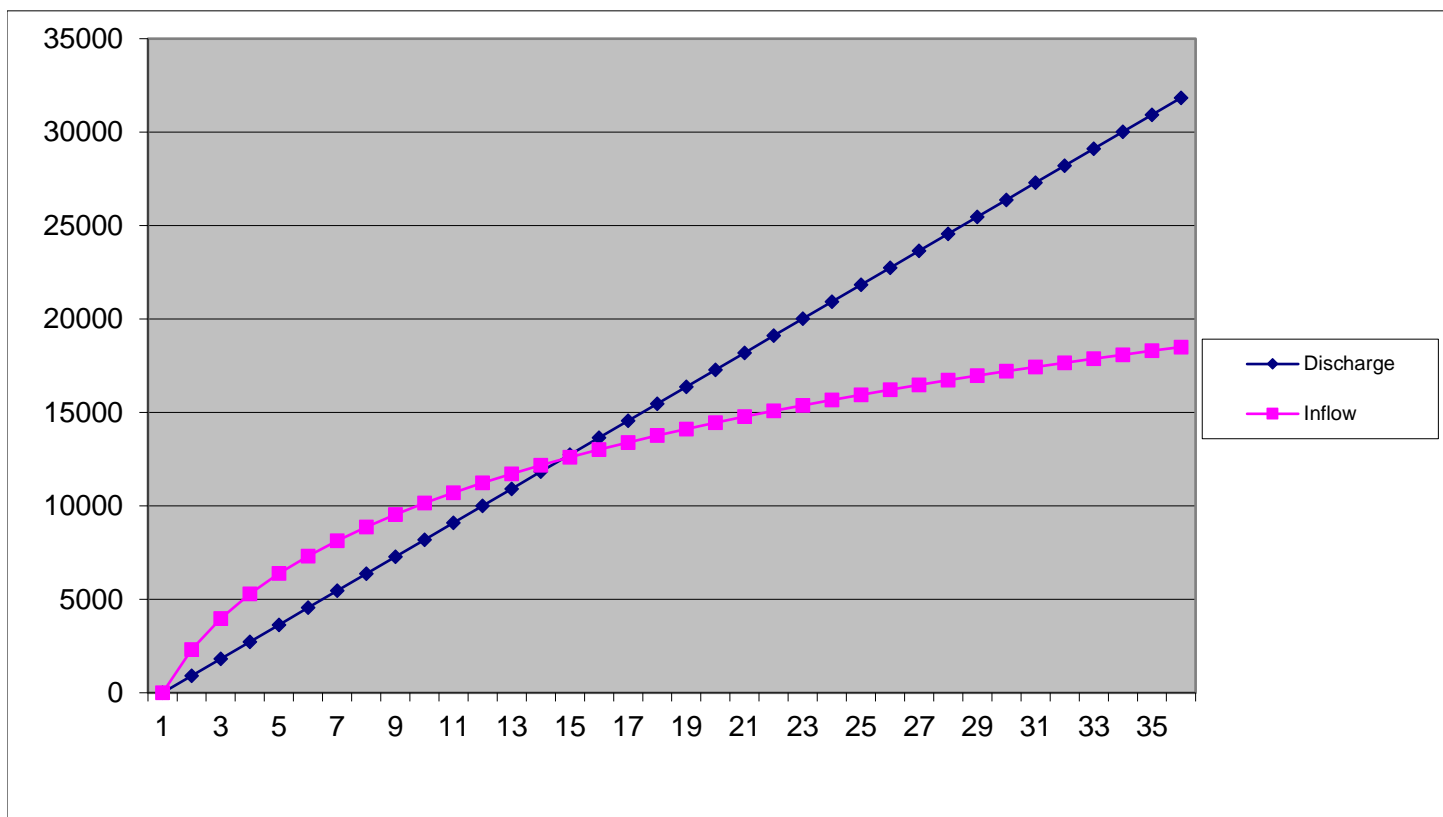
ODOT L&D MANUAL

VOLUME TWO DRAINAGE DESIGN

		a	b	c
Area C	2 yr	56.299	10.00	0.876
	5 yr	67.933	11.00	0.869
	10 yr	84.550	13.00	0.882
	25 yr	95.736	14.00	0.871
	50 yr	96.783	14.00	0.850
	100 yr	80.436	11.50	0.794

		Intensity		Allowable	Developed	Stored	Stored	Storage	
	Time			Flow	Flow	Flow	Volume	Cft.	Acre Ft.
1	0	8.45		3.03	7.69	4.66	1,397	1,397	0.0321
2	5	6.11		3.03	5.55	2.52	756	2,153	0.0494
3	10	4.82		3.03	4.38	1.35	406	2,559	0.0587
4	15	4.00		3.03	3.64	0.61	183	2,742	0.0629
5	20	3.44		3.03	3.13	0.09	28	2,770	0.0636
6	25	3.02		3.03	2.74	-0.29	-86	2,683	0.0616
7	30	2.70		3.03	2.45	-0.58	-174	2,509	0.0576
8	35	2.44		3.03	2.22	-0.81	-244	2,265	0.0520
9	40	2.23		3.03	2.03	-1.00	-301	1,964	0.0451
10	45	2.06		3.03	1.87	-1.16	-349	1,615	0.0371
11	50	1.91		3.03	1.74	-1.30	-389	1,226	0.0281
12	55	1.78		3.03	1.62	-1.41	-423	802	0.0184
13	60	1.67		3.03	1.52	-1.51	-453	349	0.0080
14	65	1.58		3.03	1.43	-1.60	-480	-131	-0.0030
15	70	1.49		3.03	1.36	-1.68	-503	-633	-0.0145
16	75	1.42		3.03	1.29	-1.74	-523	-1,157	-0.0266
17	80	1.35		3.03	1.23	-1.81	-542	-1,698	-0.0390
18	85	1.29		3.03	1.17	-1.86	-559	-2,257	-0.0518
19	90	1.23		3.03	1.12	-1.91	-574	-2,831	-0.0650
20	95	1.18		3.03	1.07	-1.96	-588	-3,418	-0.0785
21	100	1.13		3.03	1.03	-2.00	-600	-4,018	-0.0923
22	105	1.09		3.03	0.99	-2.04	-612	-4,630	-0.1063
23	110	1.05		3.03	0.96	-2.08	-623	-5,253	-0.1206
24	115	1.02		3.03	0.92	-2.11	-632	-5,885	-0.1351
25	120	0.98		3.03	0.89	-2.14	-642	-6,527	-0.1498
26	125	0.95		3.03	0.86	-2.17	-650	-7,177	-0.1648
27	130	0.92		3.03	0.84	-2.19	-658	-7,835	-0.1799

28	135	0.89	3.03	0.81	-2.22	-666	-8,501	-0.1952
29	140	0.87	3.03	0.79	-2.24	-673	-9,174	-0.2106
30	145	0.84	3.03	0.77	-2.26	-679	-9,853	-0.2262
31	150	0.82	3.03	0.75	-2.29	-686	-10,539	-0.2419
32	155	0.80	3.03	0.73	-2.31	-692	-11,231	-0.2578
33	160	0.78	3.03	0.71	-2.32	-697	-11,928	-0.2738
34	165	0.76	3.03	0.69	-2.34	-702	-12,630	-0.2899
35	170	0.74	3.03	0.67	-2.36	-707	-13,337	-0.3062
36	175	0.72						



Storm Water Detention Analysis

Project: Foregin Exchange
Location: 95 W Central, Springboro, Warren Co, OH
0

Date: 20-Aug-21
Design By: CAH

STAGE STORAGE DISCHARGE ANALYSIS

Elev.	Height	Area	Storage		Combined Discharge	
			Incremental	Accumulated		
785.43	Ft.	0 SF	0 CFT	0 CFT	0.000	CFS
786.00	0.57 Ft.	2531 SF	721 CFT	721 CFT	0.000	CFS
787.00	1.57 Ft.	4772 SF	3,652 CFT	4,373 CFT	1.131	CFS
788.00	2.57 Ft.	6304 SF	5,538 CFT	9,911 CFT	27.102	CFS
789.00	3.57 Ft.	7619 SF	6,962 CFT	16,872 CFT	42.161	CFS
789.50	4.07 Ft.	9449 SF	4,267 CFT	21,139 CFT	48.645	CFS
0.00	-785.43 Ft.	0 SF	0 CFT	21,139 CFT	0.000	CFS
0.00	-785.43 Ft.	0 SF	0 CFT	21,139 CFT	0.000	CFS
0.00	-785.43 Ft.	0 SF	0 CFT	21,139 CFT	0.000	CFS
0.00	-785.43 Ft.	0 SF	0 CFT	16,872 CFT	0.000	CFS
0.00	-785.43 Ft.	0 SF	0 CFT	16,872 CFT	0.000	CFS

Required Storage 2,770 CFT @ an allowable flow of 3.03 CFS

Storage provided

786.00	0.57	721	-----		0.00 CFS
786.56	1.13	2770 CFT Prov.	100%	@ a discharge flow of	0.63 CFS
787.00	1.57	4373	-----		1.13 CFS
Allowable Discharge					3.03 CFS
Difference					-2.40 CFS
100% Required storage provided					2.94 Ft. of Freeboard

Basin Analysis ~ Basin A

OUTLET STRUCTURE ANALYSIS

Inv. El. 785.43
Dia. (in) 8.00
Primary Outlet
 $Q = C * A * (2 * G * H)^{.5}$
C = 0.66

Inv. El. 787.00
Weir Length= **6.00 Ft.**
Secondary Outlet
Rec. Weir $Q = C * L * (H^{.66})$
C = 4.00

Overflow
Elevation 788.00
Combined Flows

Elev.	Height							
785.43	0.00 Ft.	0.000	CFS	0.00	0.000	CFS	0.000	CFS
786.00	0.57 Ft.	0.000	CFS	0.00	0.000	CFS	0.000	CFS
787.00	1.57 Ft.	1.131	CFS	0.00	0.000	CFS	1.131	CFS
788.00	2.57 Ft.	3.102	CFS	1.00	24.000	CFS	27.102	CFS
789.00	3.57 Ft.	4.239	CFS	2.00	37.922	CFS	42.161	CFS
789.50	4.07 Ft.	4.705	CFS	2.50	43.939	CFS	48.645	CFS
0.00	-785.43 Ft.	0.000	CFS	0.00	0.000	CFS	0.000	CFS
0.00	-785.43 Ft.	0.000	CFS	0.00	0.000	CFS	0.000	CFS
0.00	-785.43 Ft.	0.000	CFS	0.00	0.000	CFS	0.000	CFS
0.00	-785.43 Ft.	0.000	CFS	0.00	0.000	CFS	0.000	CFS
0.00	-785.43 Ft.	0.000	CFS	0.00	0.000	CFS	0.000	CFS

Storm Water Detention Analysis

Project: Foregin Exchange
Location: 95 W Central, Springboro, Warren Co, OH

Date: 14-Aug-20
Design By: CAH

Basin Analysis ~ Basin A

WORKSHEET 3: TIME OF CONCENTRATION (Tc) OR TRAVEL TIME (Tt)

Date: 20-Aug-21

Sheet Flow (Applicable to Tc only)

Storm #1

- Segment ID
1. Surface description (table 3-1).....
 2. Manning's roughness coeff., n (table 3-1)
 3. Flow length, L (total L < 300 ft) ft
 4. Two-yr , I..... in/hr
 5. Land slope, s..... ft/ft
 6. $Tt = \frac{0.93(nL)^{0.6}}{I^{0.4} s^{0.3}}$ Compute Tt-hr

Short Grass		
0.1		
50		
3.06		
0.1		
3.11584884	+	0 0.05

Shallow Concentrated Flow

- Segment ID
7. Surface description (paved or unpaved).....
 8. Flow length, L..... ft
 9. Watercourse slope, s..... ft/ft
 10. Average velocity, V (fig 3-1)..... ft/s
 11. $Tt = L/(3600V)$ Compute Tt..... hr

Grassed		
300		
0.04		
2		
0.04166667	+	0 0.04167

Channel Flow

- Segment ID
12. Cross sectional flow area, a..... ft²
 13. Wetted perimeter, Pw..... ft
 14. Hydraulic radius, r = a/Pw..... ft
 15. Channel slope, s..... ft/ft
 16. Manning's roughness coeff., n.....
 17. $V = (1.49)r^{0.67}s^{0.5}/n$ ft/s
 18. Flow length, L..... ft
 19. $Tt = L/(3600V)$ Compute Tt..... hr
 20. Watershed or subarea Tc or Tt (add Tt in steps 6, 11 and 19)..... hr

0	+	0 0
		0.09 HR
		6 Min

Storm Water Detention Analysis

Project: Foreign Exchange
Location: 95 W Central, Springboro, Warren Co, OH
0

Date: 14-Aug-20
Design By: CAH

Basin Analysis ~ Basin A

Existing Area Conditions

Pavement area	0.177	Acres @ C =	0.950
Grassed Area	1.559	Acres @ C =	0.300
	0.000		0.000
Farm Area	0.000	Acres @ C =	0.300
Total	1.7360226	Acres @ C =	0.366

(A) Calculation for 2 year existing flow $q=Aci$
Area "A" [1.736] Acres Runoff Coefficient, "C"=[0.366]
Intensity, I= 5.25] inches/hr $tc=[5.00]$ minutes
"q" (total allowable release rate) $A \times C \times I = \text{c.f.s.}$
 $A [1.736] \times C [0.366] \times i [5.25] = [3.34] \text{ c.f.s.}$

Pond Bypass

Pavement area	0.000	Acres @ C =	0.950
Grassed Area	0.195	Acres @ C =	0.300
Chanel Rip Rap	0.000	Acres @ C =	0.750
Farm Area	0.000	Acres @ C =	0.300
Total	0.19471	Acres @ C =	0.300

(A) Calculation for 2 year existing flow $q=Aci$
Area "A" [0.195] Acres Runoff Coefficient, "C"=[0.300]
Intensity, I= 5.25] inches/hr $tc=[5.00]$ minutes
"q" (bypassed release rate) $A \times C \times I = \text{c.f.s.}$
 $A [0.195] \times C [0.300] \times i [5.25] = [0.31] \text{ c.f.s.}$

Adjusted Allowable Release Rate = (Total Allowable) - (Bypass Flow)

Adjusted allowable pond release rate 3.03 c.f.s.

Developed Basin Conditions

Pavement area	0.598	Acres @ C =	0.950
Grassed Area	1.138	Acres @ C =	0.300
Bypass Area	0.000	Acres @ C =	0.950
Bypass Area	0.000	Acres @ C =	0.300
Total	1.736	Acres @ C =	0.524

(A) Calculation for 10 year developed flow $q=Aci$
Area "A" [1.736] Acres Runoff Coefficient, "C"=[0.524]
Intensity, I= 6.61] inches/hr $tc=[5.00]$ minutes
"q" Developed flow rate) $A \times C \times I = \text{c.f.s.}$
 $A [1.736] \times C [0.524] \times i [6.61] = [6.01] \text{ c.f.s.}$

Time	Intensity		
5 Min	6.61 In/Hr	10 year	Post Development
5 Min	5.25 In/Hr	2 year	Pre Development

$$i = a / (t_c + b)^c$$

Where: i = rainfall intensity (inches/hour)

t = time of concentration (minutes)

a = constant

b = constant

c = constant

Reference

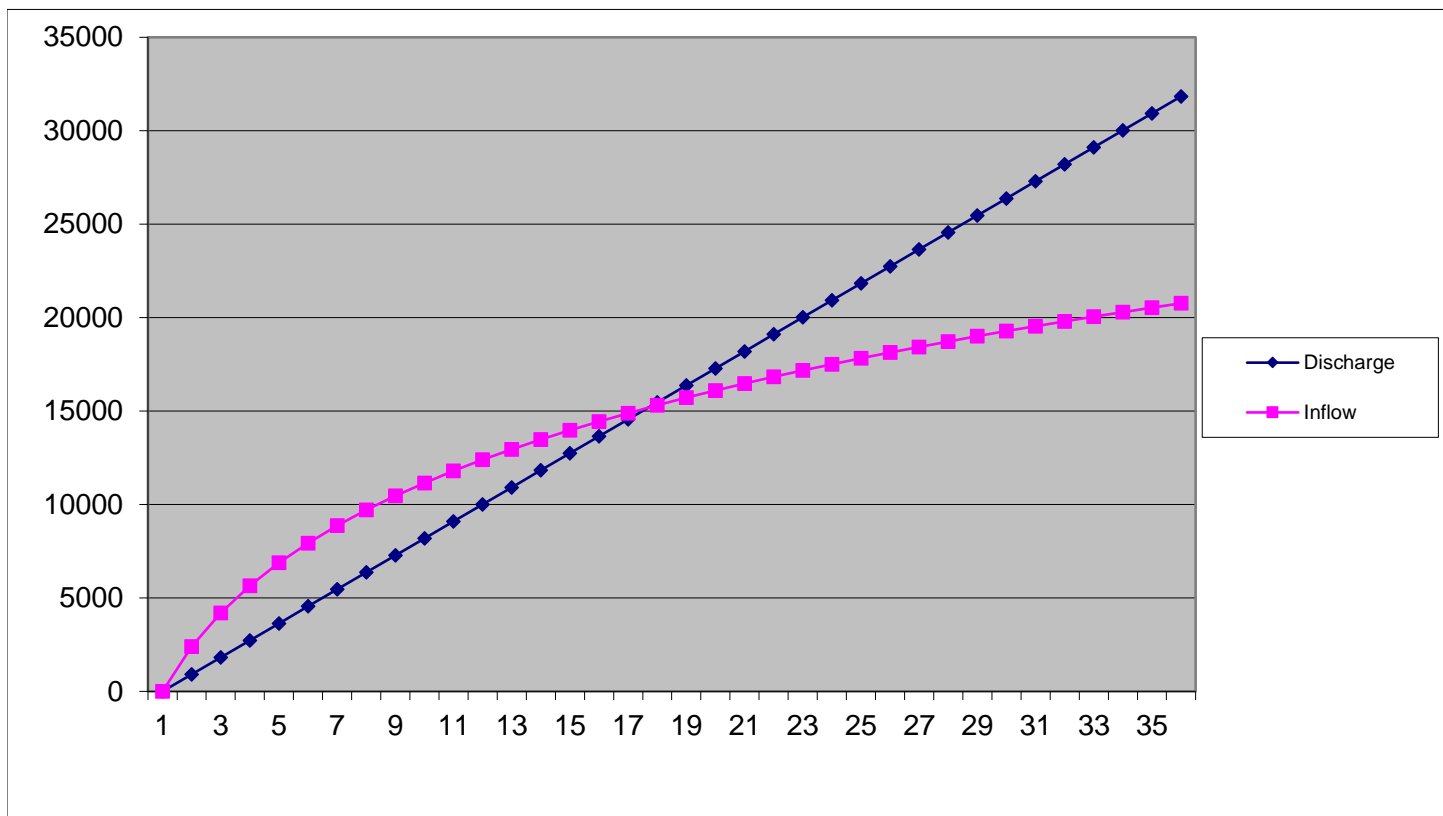
ODOT L&D MANUAL

VOLUME TWO DRAINAGE DESIGN

		a	b	c
Area C	2 yr	56.299	10.00	0.876
	5 yr	67.933	11.00	0.869
	10 yr	84.550	13.00	0.882
	25 yr	95.736	14.00	0.871
	50 yr	96.783	14.00	0.850
	100 yr	80.436	11.50	0.794

		Intensity		Allowable	Developed	Stored	Stored	Storage	
	Time			Flow	Flow	Flow	Volume	Cft.	Acre Ft.
1	0	8.80		3.03	8.01	4.97	1,492	1,492	0.0343
2	5	6.61		3.03	6.01	2.98	893	2,385	0.0548
3	10	5.32		3.03	4.84	1.81	542	2,928	0.0672
4	15	4.47		3.03	4.07	1.04	311	3,239	0.0743
5	20	3.87		3.03	3.52	0.49	146	3,385	0.0777
6	25	3.42		3.03	3.11	0.08	23	3,408	0.0782
7	30	3.06		3.03	2.79	-0.24	-73	3,335	0.0766
8	35	2.78		3.03	2.53	-0.50	-151	3,184	0.0731
9	40	2.55		3.03	2.32	-0.71	-214	2,970	0.0682
10	45	2.35		3.03	2.14	-0.89	-267	2,702	0.0620
11	50	2.19		3.03	1.99	-1.04	-313	2,390	0.0549
12	55	2.05		3.03	1.86	-1.17	-351	2,038	0.0468
13	60	1.92		3.03	1.75	-1.28	-385	1,653	0.0379
14	65	1.81		3.03	1.65	-1.38	-415	1,238	0.0284
15	70	1.72		3.03	1.56	-1.47	-441	796	0.0183
16	75	1.63		3.03	1.48	-1.55	-465	331	0.0076
17	80	1.55		3.03	1.41	-1.62	-486	-155	-0.0036
18	85	1.48		3.03	1.35	-1.68	-505	-660	-0.0152
19	90	1.42		3.03	1.29	-1.74	-523	-1,183	-0.0272
20	95	1.36		3.03	1.24	-1.79	-538	-1,721	-0.0395
21	100	1.31		3.03	1.19	-1.84	-553	-2,274	-0.0522
22	105	1.26		3.03	1.14	-1.89	-566	-2,841	-0.0652
23	110	1.21		3.03	1.10	-1.93	-579	-3,419	-0.0785
24	115	1.17		3.03	1.07	-1.97	-590	-4,010	-0.0920
25	120	1.13		3.03	1.03	-2.00	-601	-4,610	-0.1058
26	125	1.10		3.03	1.00	-2.04	-611	-5,221	-0.1199
27	130	1.06		3.03	0.97	-2.07	-620	-5,841	-0.1341

28	135	1.03	3.03	0.94	-2.10	-629	-6,469	-0.1485
29	140	1.00	3.03	0.91	-2.12	-637	-7,106	-0.1631
30	145	0.97	3.03	0.88	-2.15	-644	-7,750	-0.1779
31	150	0.95	3.03	0.86	-2.17	-651	-8,402	-0.1929
32	155	0.92	3.03	0.84	-2.19	-658	-9,060	-0.2080
33	160	0.90	3.03	0.82	-2.22	-665	-9,725	-0.2233
34	165	0.88	3.03	0.80	-2.24	-671	-10,396	-0.2387
35	170	0.85	3.03	0.78	-2.26	-677	-11,072	-0.2542
36	175	0.83						



Storm Water Detention Analysis

Project: Foregin Exchange
Location: 95 W Central, Springboro, Warren Co, OH
0

Date: 14-Aug-20
Design By: CAH

STAGE STORAGE DISCHARGE ANALYSIS

Elev.	Height	Area	Storage		Combined Discharge	
			Incremental	Accumulated		
785.43	Ft.	0 SF	0 CFT	0 CFT	0.000	CFS
786.00	0.57 Ft.	2531 SF	721 CFT	721 CFT	0.000	CFS
787.00	1.57 Ft.	4772 SF	3,652 CFT	4,373 CFT	1.131	CFS
788.00	2.57 Ft.	6304 SF	5,538 CFT	9,911 CFT	27.102	CFS
789.00	3.57 Ft.	7619 SF	6,962 CFT	16,872 CFT	42.161	CFS
789.50	4.07 Ft.	9449 SF	4,267 CFT	21,139 CFT	48.645	CFS
0.00	-785.43 Ft.	0 SF	0 CFT	21,139 CFT	0.000	CFS
0.00	-785.43 Ft.	0 SF	0 CFT	21,139 CFT	0.000	CFS
0.00	-785.43 Ft.	0 SF	0 CFT	21,139 CFT	0.000	CFS
0.00	-785.43 Ft.	0 SF	0 CFT	16,872 CFT	0.000	CFS
0.00	-785.43 Ft.	0 SF	0 CFT	21,139 CFT	0.000	CFS

Required Storage 3,408 CFT @ an allowable flow of 3.03 CFS

Storage provided

786.00	0.57	721	-----		0.00 CFS
786.74	1.31	3408 CFT Prov.	100%	@ a discharge flow of	0.83 CFS
787.00	1.57	4373	-----		1.13 CFS
Allowable Discharge					3.03 CFS
Difference					-2.20 CFS
100% Required storage provided					2.76 Ft. of Freeboard

Basin Analysis ~ Basin A

OUTLET STRUCTURE ANALYSIS

Inv. El. 785.43
Dia. (in) 8.00
Primary Outlet
 $Q = C * A * (2 * G * H)^{.5}$
C = 0.66

Inv. El. 787.00
Weir Length= **6.00 Ft.**
Secondary Outlet
Rec. Weir $Q = C * L * (H^{.66})$
C = 4.00

Overflow
Elevation 788.00
Combined Flows

Elev.	Height							
785.43	0.00 Ft.	0.000	CFS	0.00	0.000	CFS	0.000	CFS
786.00	0.57 Ft.	0.000	CFS	0.00	0.000	CFS	0.000	CFS
787.00	1.57 Ft.	1.131	CFS	0.00	0.000	CFS	1.131	CFS
788.00	2.57 Ft.	3.102	CFS	1.00	24.000	CFS	27.102	CFS
789.00	3.57 Ft.	4.239	CFS	2.00	37.922	CFS	42.161	CFS
789.50	4.07 Ft.	4.705	CFS	2.50	43.939	CFS	48.645	CFS
0.00	-785.43 Ft.	0.000	CFS	0.00	0.000	CFS	0.000	CFS
0.00	-785.43 Ft.	0.000	CFS	0.00	0.000	CFS	0.000	CFS
0.00	-785.43 Ft.	0.000	CFS	0.00	0.000	CFS	0.000	CFS
0.00	-785.43 Ft.	0.000	CFS	0.00	0.000	CFS	0.000	CFS
0.00	-785.43 Ft.	0.000	CFS	0.00	0.000	CFS	0.000	CFS

Storm Water Detention Analysis

Project: Foregin Exchange
Location: 95 W Central, Springboro, Warren Co, OH

Date: 14-Aug-20
Design By: CAH

Basin Analysis ~ Basin A

WORKSHEET 3: TIME OF CONCENTRATION (Tc) OR TRAVEL TIME (Tt)

Date: 20-Aug-21

Sheet Flow (Applicable to Tc only)

Storm #1

- Segment ID
1. Surface description (table 3-1).....
 2. Manning's roughness coeff., n (table 3-1)
 3. Flow length, L (total L < 300 ft) ft
 4. Two-yr , I..... in/hr
 5. Land slope, s..... ft/ft
 6. $T_t = \frac{0.93(nL)^{0.6}}{I^{0.4} s^{0.3}}$ Compute Tt-hr

Short Grass		
0.1		
50		
3.06		
0.1		
3.11584884	+	0 0.05

Shallow Concentrated Flow

- Segment ID
7. Surface description (paved or unpaved).....
 8. Flow length, L..... ft
 9. Watercourse slope, s..... ft/ft
 10. Average velocity, V (fig 3-1)..... ft/s
 11. $T_t = L/(3600V)$ Compute Tt..... hr

Grassed		
300		
0.04		
2		
0.04166667	+	0 0.04167

Channel Flow

- Segment ID
12. Cross sectional flow area, a..... ft²
 13. Wetted perimeter, Pw..... ft
 14. Hydraulic radius, r = a/Pw..... ft
 15. Channel slope, s..... ft/ft
 16. Manning's roughness coeff., n.....
 17. $V = (1.49)r^{0.67}s^{0.5}/n$ ft/s
 18. Flow length, L..... ft
 19. $T_t = L/(3600V)$ Compute Tt..... hr
 20. Watershed or subarea Tc or Tt (add Tt in steps 6, 11 and 19)..... hr

0	+	0 0
		0.09 HR
		6 Min

Storm Water Detention Analysis

Project: Foreign Exchange
Location: 95 W Central, Springboro, Warren Co, OH
 0

Date: 14-Aug-20
Design By: CAH

Basin Analysis ~ Basin A

Existing Area Conditions

Pavement area	0.177	Acres @ C =	0.950
Grassed Area	1.559	Acres @ C =	0.300
	0.000		0.000
Farm Area	0.000	Acres @ C =	0.300
Total	1.7360226	Acres @ C =	0.366

(A) Calculation for 100 year existing flow q=Aci
 Area "A" [1.736] Acres Runoff Coefficient, "C"=[0.366]
 Intensity, I= 8.68] inches/hr tc=[5.00] minutes
 "q" (total allowable release rate) A x C x I = c.f.s.
 A [1.736] x C [0.366] x i [8.68] = [5.52] c.f.s.

Pond Bypass

Pavement area	0.000	Acres @ C =	0.950
Grassed Area	0.195	Acres @ C =	0.300
Chanel Rip Rap	0.026	Acres @ C =	0.750
Farm Area	0.000	Acres @ C =	0.300
Total	0.2211004	Acres @ C =	0.300

(A) Calculation for 100 year existing flow q=Aci
 Area "A" [0.221] Acres Runoff Coefficient, "C"=[0.300]
 Intensity, I= 8.68] inches/hr tc=[5.00] minutes
 "q" (bypassed release rate) A x C x I = c.f.s.
 A [0.221] x C [0.300] x i [8.68] = [0.58] c.f.s.

Adjusted Allowable Release Rate = (Total Allowable) - (Bypass Flow)

Adjusted allowable pond release rate	4.95 c.f.s.
--------------------------------------	--------------------

Developed Basin Conditions

Pavement area	0.598	Acres @ C =	0.950
Grassed Area	1.138	Acres @ C =	0.300
Bypass Area	0.000	Acres @ C =	0.950
Bypass Area	0.000	Acres @ C =	0.300
Total	1.736	Acres @ C =	0.524

(A) Calculation for 100 year developed flow q=Aci
 Area "A" [1.736] Acres Runoff Coefficient, "C"=[0.524]
 Intensity, I= 8.68] inches/hr tc=[5.00] minutes
 "q" Developed flow rate) A x C x I = c.f.s.
 A [1.736] x C [0.524] x i [8.68] = [7.90] c.f.s.

Time Intensity
 5 Min 8.68 In/Hr 100 year Post Development
 5 Min 8.68 In/Hr 100 year Pre Development

$$i = a / (t_c + b)^c$$

Where: i = rainfall intensity (inches/hour)

t = time of concentration (minutes)

a = constant

b = constant

c = constant

Reference

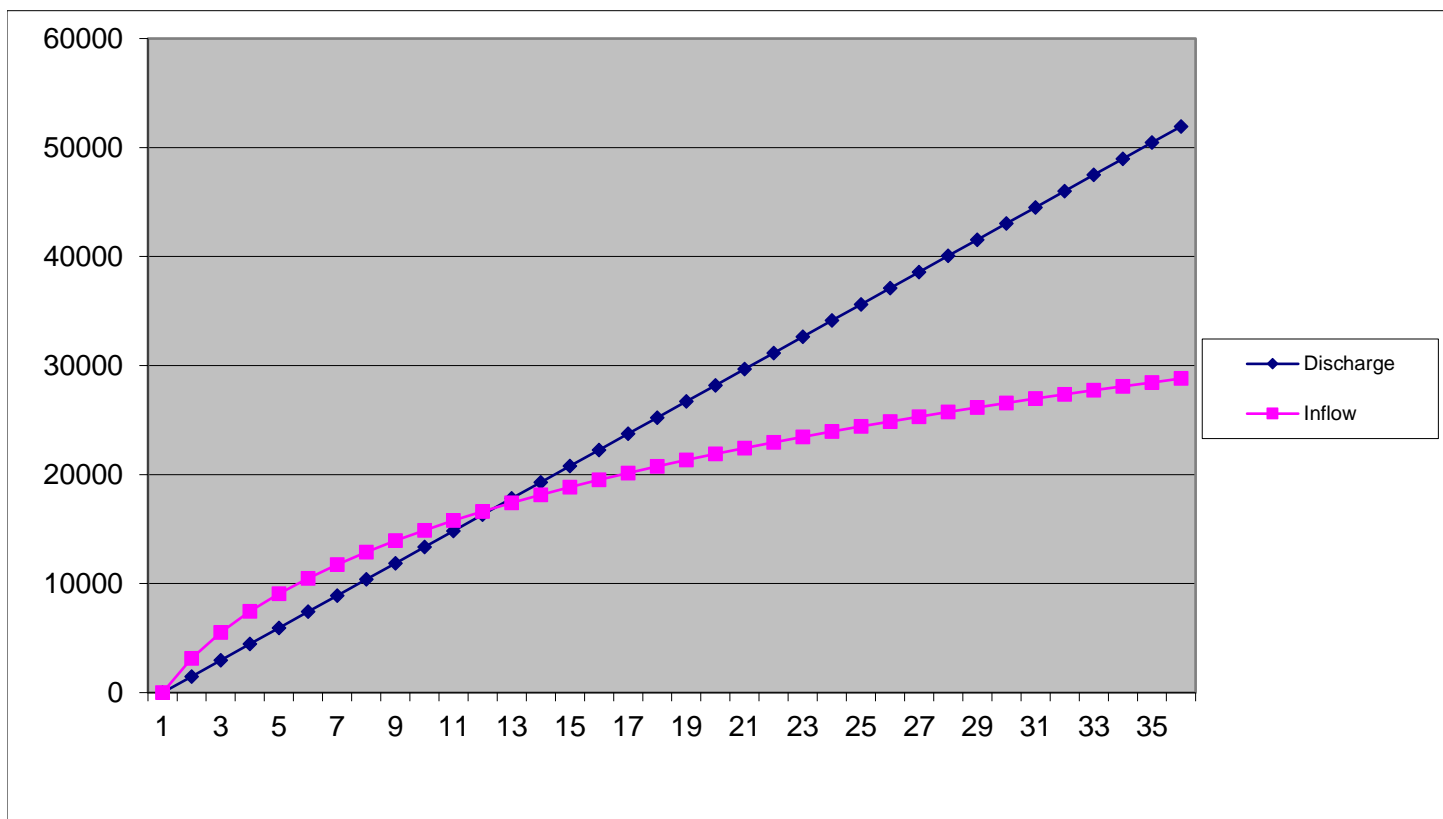
ODOT L&D MANUAL

VOLUME TWO DRAINAGE DESIGN

		a	b	c
Area C	2 yr	56.299	10.00	0.876
	5 yr	67.933	11.00	0.869
	10 yr	84.550	13.00	0.882
	25 yr	95.736	14.00	0.871
	50 yr	96.783	14.00	0.850
	100 yr	80.436	11.50	0.794

		Intensity		Allowable	Developed	Stored	Stored	Storage	
	Time			Flow	Flow	Flow	Volume	Cft.	Acre Ft.
1	0	11.57		4.95	10.52	5.57	1,672	1,672	0.0384
2	5	8.68		4.95	7.90	2.95	886	2,558	0.0587
3	10	7.04		4.95	6.40	1.46	437	2,995	0.0688
4	15	5.96		4.95	5.42	0.48	143	3,138	0.0720
5	20	5.20		4.95	4.73	-0.22	-66	3,072	0.0705
6	25	4.62		4.95	4.21	-0.74	-222	2,850	0.0654
7	30	4.18		4.95	3.80	-1.15	-345	2,505	0.0575
8	35	3.81		4.95	3.47	-1.48	-443	2,062	0.0473
9	40	3.52		4.95	3.20	-1.75	-524	1,538	0.0353
10	45	3.27		4.95	2.97	-1.97	-592	946	0.0217
11	50	3.06		4.95	2.78	-2.17	-650	296	0.0068
12	55	2.87		4.95	2.61	-2.33	-700	-405	-0.0093
13	60	2.71		4.95	2.47	-2.48	-744	-1,149	-0.0264
14	65	2.57		4.95	2.34	-2.61	-783	-1,932	-0.0443
15	70	2.44		4.95	2.22	-2.72	-817	-2,749	-0.0631
16	75	2.33		4.95	2.12	-2.83	-848	-3,597	-0.0826
17	80	2.23		4.95	2.03	-2.92	-876	-4,473	-0.1027
18	85	2.14		4.95	1.94	-3.00	-901	-5,373	-0.1234
19	90	2.05		4.95	1.87	-3.08	-924	-6,297	-0.1446
20	95	1.98		4.95	1.80	-3.15	-945	-7,242	-0.1663
21	100	1.91		4.95	1.73	-3.21	-964	-8,206	-0.1884
22	105	1.84		4.95	1.67	-3.27	-982	-9,188	-0.2109
23	110	1.78		4.95	1.62	-3.33	-998	-10,186	-0.2338
24	115	1.72		4.95	1.57	-3.38	-1,014	-11,200	-0.2571
25	120	1.67		4.95	1.52	-3.43	-1,028	-12,228	-0.2807
26	125	1.62		4.95	1.48	-3.47	-1,041	-13,269	-0.3046
27	130	1.58		4.95	1.43	-3.51	-1,054	-14,323	-0.3288

28	135	1.53	4.95	1.40	-3.55	-1,065	-15,388	-0.3533
29	140	1.49	4.95	1.36	-3.59	-1,076	-16,465	-0.3780
30	145	1.46	4.95	1.32	-3.62	-1,087	-17,551	-0.4029
31	150	1.42	4.95	1.29	-3.66	-1,097	-18,648	-0.4281
32	155	1.39	4.95	1.26	-3.69	-1,106	-19,754	-0.4535
33	160	1.35	4.95	1.23	-3.72	-1,115	-20,868	-0.4791
34	165	1.32	4.95	1.20	-3.74	-1,123	-21,991	-0.5048
35	170	1.29	4.95	1.18	-3.77	-1,131	-23,122	-0.5308
36	175	1.27						



Storm Water Detention Analysis

Project: Foregin Exchange
Location: 95 W Central, Springboro, Warren Co, OH
0

Date: 14-Aug-20
Design By: CAH

STAGE STORAGE DISCHARGE ANALYSIS

Elev.	Height	Area	Storage		Combined Discharge	
			Incremental	Accumulated		
785.43	Ft.	0 SF	0 CFT	0 CFT	0.000	CFS
786.00	0.57 Ft.	2531 SF	721 CFT	721 CFT	0.000	CFS
787.00	1.57 Ft.	4772 SF	3,652 CFT	4,373 CFT	1.131	CFS
788.00	2.57 Ft.	6304 SF	5,538 CFT	9,911 CFT	27.102	CFS
789.00	3.57 Ft.	7619 SF	6,962 CFT	16,872 CFT	42.161	CFS
789.50	4.07 Ft.	9449 SF	4,267 CFT	21,139 CFT	48.645	CFS
0.00	-785.43 Ft.	0 SF	0 CFT	21,139 CFT	0.000	CFS
0.00	-785.43 Ft.	0 SF	0 CFT	21,139 CFT	0.000	CFS
0.00	-785.43 Ft.	0 SF	0 CFT	21,139 CFT	0.000	CFS
0.00	-785.43 Ft.	0 SF	0 CFT	16,872 CFT	0.000	CFS
0.00	-785.43 Ft.	0 SF	0 CFT	21,139 CFT	0.000	CFS

Required Storage 3,138 CFT @ an allowable flow of 4.95 CFS

Storage provided

787.00	1.57	4373	-----		1.13 CFS
787.15	1.72	5186	CFT Prov.	165%	@ a discharge flow of 4.95 CFS
788.00	2.57	9911	-----		27.10 CFS
				Allowable Discharge	4.95 CFS
				Difference	0.00 CFS
				165% Required storage provided	2.35 Ft. of Freeboard

Basin Analysis ~ Basin A

OUTLET STRUCTURE ANALYSIS

Inv. El. 785.43
Dia. (in) 8.00
Primary Outlet
 $Q = C * A * (2 * G * H)^{.5}$
C = 0.66

Inv. El. 787.00
Weir Length= **6.00 Ft.**
Secondary Outlet
Rec. Weir $Q = C * L * (H^{.66})$
C = 4.00

Overflow
Elevation 788.00
Combined Flows

Elev.	Height							
785.43	0.00 Ft.	0.000	CFS	0.00	0.000	CFS	0.000	CFS
786.00	0.57 Ft.	0.000	CFS	0.00	0.000	CFS	0.000	CFS
787.00	1.57 Ft.	1.131	CFS	0.00	0.000	CFS	1.131	CFS
788.00	2.57 Ft.	3.102	CFS	1.00	24.000	CFS	27.102	CFS
789.00	3.57 Ft.	4.239	CFS	2.00	37.922	CFS	42.161	CFS
789.50	4.07 Ft.	4.705	CFS	2.50	43.939	CFS	48.645	CFS
0.00	-785.43 Ft.	0.000	CFS	0.00	0.000	CFS	0.000	CFS
0.00	-785.43 Ft.	0.000	CFS	0.00	0.000	CFS	0.000	CFS
0.00	-785.43 Ft.	0.000	CFS	0.00	0.000	CFS	0.000	CFS
0.00	-785.43 Ft.	0.000	CFS	0.00	0.000	CFS	0.000	CFS
0.00	-785.43 Ft.	0.000	CFS	0.00	0.000	CFS	0.000	CFS

Section Three

ANALYSIS REFERENCE

**ODOT Location and Design Manual
Volume Two Drainage Design**

[LOCATION AND DESIGN MANUAL VOLUME TWO DRAINAGE DESIGN](#)

General Notes – Figures 1101-2 through 1101-3

General Notes – Figures 1101-2 through 1101-3

The Rainfall Intensity-Duration-Frequency (IDF) curves are based upon precipitation data obtained from the National Oceanic and Atmospheric Administration (NOAA) Atlas 14. The precipitation data was collected between 4/1863 to 12/2000.

Rainfall depth varies across the State with more rainfall depth present in the Southwest portion of the state and gradually decreasing towards the Northeast. IDF curves were developed for 4 regions across the State to simplify hydraulic design. The regions were determined by normalizing contours created from NOAA precipitation GIS data from the 10 year, 60 minute duration.

Federal Highway Administration Hydraulic Engineering Circular No. 12 Appendix A offers a methodology for converting I-D-F data points to an equation of the general form:

$$i = a/(t+b)^c$$

Where: i = rainfall intensity (inches/hour)
 t = time of concentration (minutes)
 a = constant
 b = constant
 c = constant

Figure 1101-2 can be expressed using the above general equation utilizing the constants shown below.

Intensity Zone (Figure 1101-3)	Frequency (Years)	Constant "a"	Constant "b"	Constant "c"
A	2	46.184	9.000	0.859
	5	56.985	10.250	0.851
	10	64.167	11.000	0.842
	25	66.528	11.000	0.811
	50	65.702	10.750	0.782
	100	64.489	10.500	0.754
B	2	47.987	9.000	0.859
	5	60.684	10.500	0.858
	10	73.126	12.000	0.863
	25	75.841	12.000	0.833
	50	65.621	10.000	0.781
	100	85.047	13.250	0.806
C	2	56.299	10.000	0.876
	5	67.933	11.000	0.869
	10	84.550	13.000	0.882
	25	95.736	14.000	0.871
	50	96.783	14.000	0.850
	100	80.436	11.500	0.794
D	2	57.448	10.000	0.876
	5	67.933	11.000	0.869
	10	79.192	12.000	0.864
	25	87.886	12.750	0.849
	50	95.169	13.500	0.839
	100	91.982	13.000	0.810

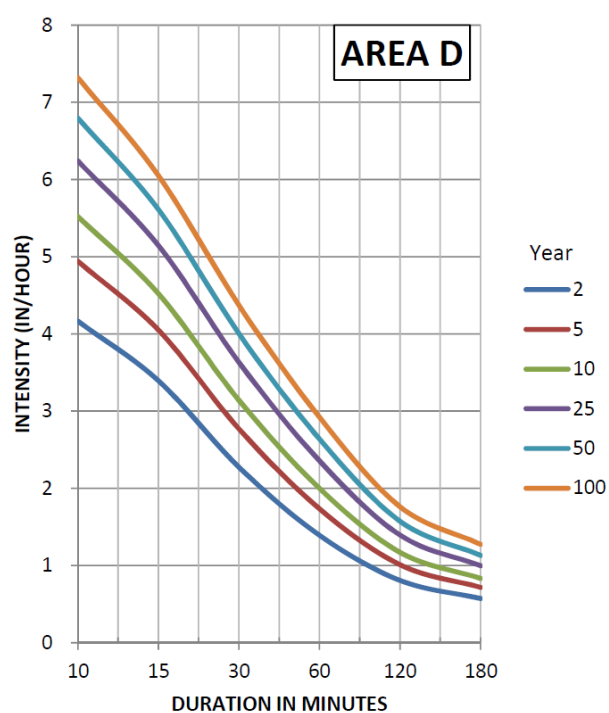
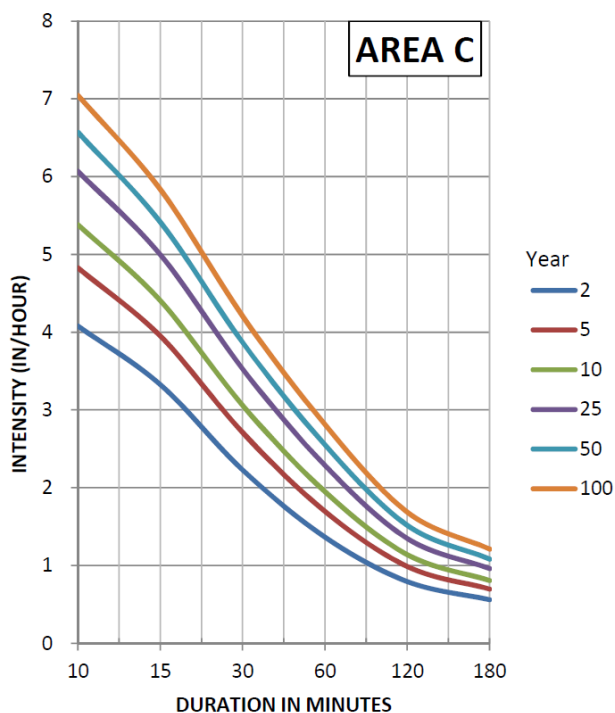
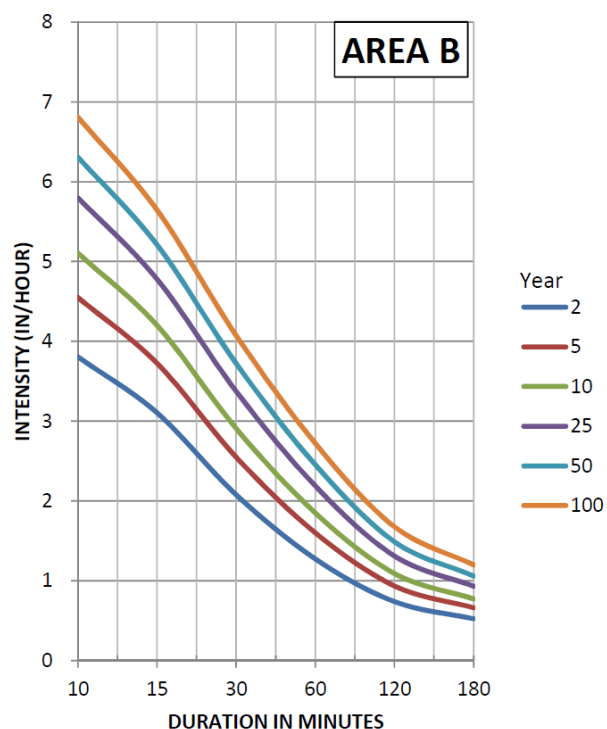
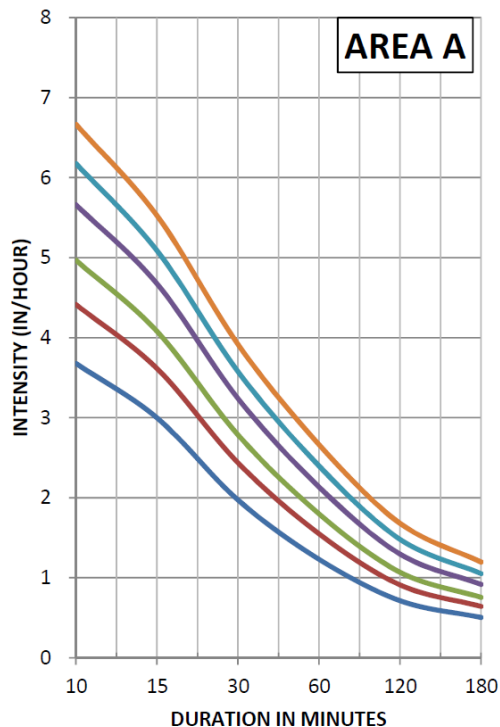
For any projects that have begun using the previous Rainfall Intensity-Duration-Frequency (IDF) curves, continue with their use through the completion of the project. The current Rainfall Intensity-Duration-Frequency (IDF) curves should be used at the start for all new projects.

Rainfall Intensity-Frequency-Duration Curves

1101-2

Reference Section

1101.2.4



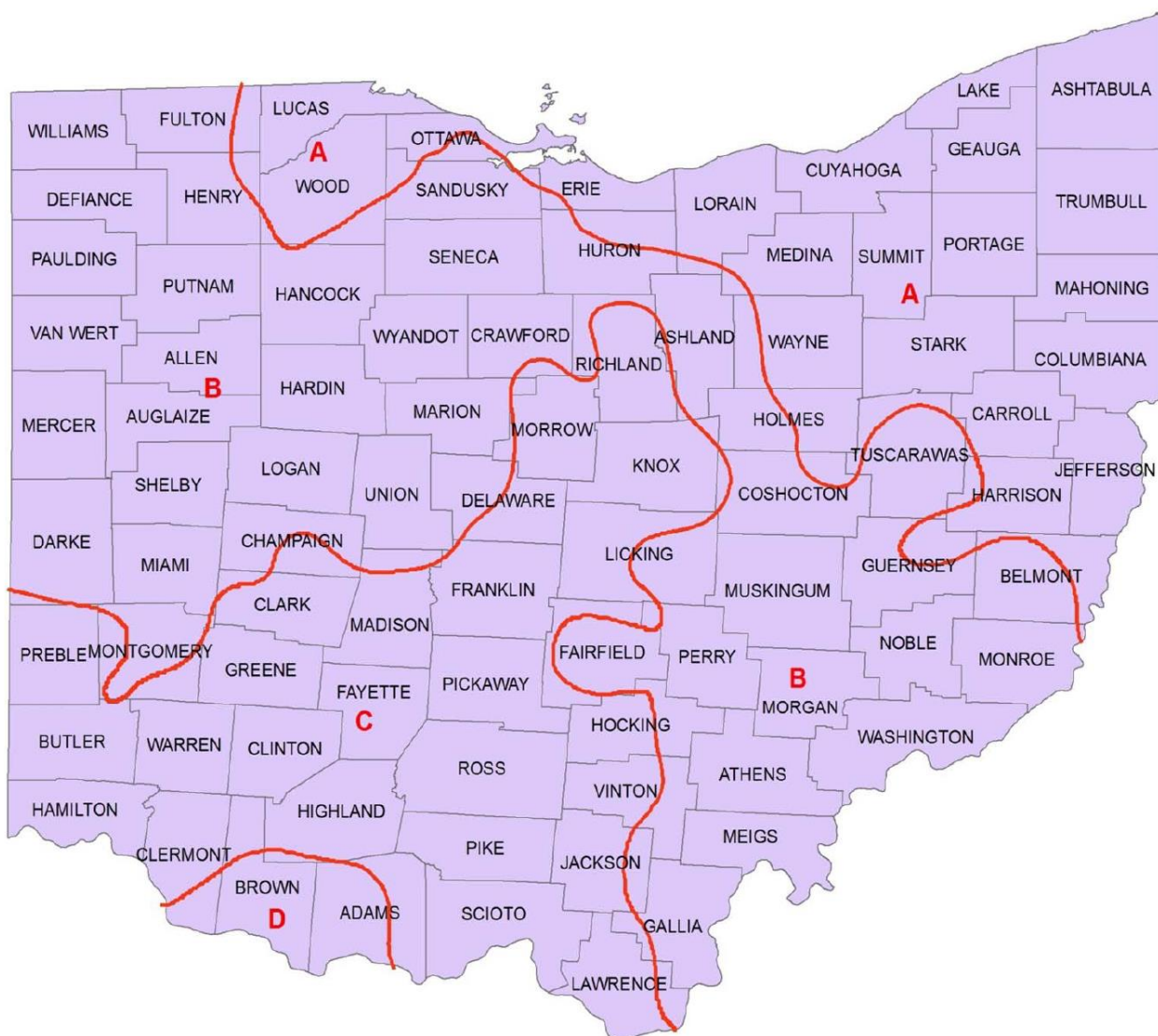
Refer to General Notes - Figures 1101-2 through 1101-3

Rainfall Intensity-Frequency-Duration Curves

1101-3

Reference Section

1101.2.4



Refer to General Notes - Figures 1101-2 through 1101-3

City of Springboro
320 West Central Avenue, Springboro, Ohio 45066
Planning Commission Meeting
Wednesday, August 18, 2021

I. Call to Order

Chairperson Becky Iverson called the Springboro Planning Commission Meeting to order at 6:00 p.m. at the Springboro Municipal Building, Council Chambers, 320 West Central Avenue, Springboro, Ohio.

Present: Becky Iverson, Chair, Chris Pearson, Vice-Chair, Mark Davis, Robert Dimmitt, Steve Harding, Mike Thompson, and John Sillies.

Staff: Dan Boron, City Planner; Elmer Dudas, Development Director; Chad Dixon, City Engineer, Ann Burns, Planning Commission Secretary.

II. Approval of Minutes

A. July 14, 2021 Planning Commission Minutes

Ms. Iverson asked for corrections or additions to the minutes. There were none

Mr. Harding motioned to approve the July 14, 2021 Planning Commission minutes. . Mr. Pearson seconded the motion.

Vote: Harding, yes; Davis, yes; Sillies, yes; Dimmitt, yes; Iverson, yes; Pearson, yes; Thompson, yes (7-0)

III. Agenda Items

A. Final Review, Site Plan Review, 465 Victory Drive, new commercial building for B&E Plumbing

Background Information

This agenda item is a request for site plan review, filed by Burkhardt Engineering Co., representing B&E Plumbing, property owner, approval for the construction of a 3,605-square foot commercial building at 465 Victory Drive, southeast of the intersection of Victory Drive and South Pioneer Drive. The property is 3.29 acres in area and is currently vacant. The property/business owner has initiated clearing of the site, which is permitted prior to Planning Commission review and approval, to accommodate this development subject to staff review. The building/site is proposed to be used for a plumbing business to be constructed on the west end of the property. The subject property is zoned ED, Employment Center District, a zoning designation that allows the proposed use. This item was reviewed on a preliminary basis at the July 14, 2021 Planning Commission meeting at which time this agenda item was authorized for formal approval.

Adjacent land uses include Victory Wholesale to the east, to the south a large commercial building fronting South Pioneer Drive and occupied by Paper Systems and Trebnick Systems, to the west Total Cable Solutions, Inc., and to the north on the north side of Victory Drive, Hausfeld Classics and a commercial building owned and occupied by Sunstar along with an access drive to their campus to the north. Adjacent zoning is ED District for all adjacent properties.

Staff Comments

City staff recommends APPROVAL of the site plan for 465 Victory Drive contingent on complying with the following comments following action by the Planning Commission:

1. Provide materials board or samples prior to or at August 18th Planning Commission meeting.
2. For proposed dumpster screening and gate, provide exterior materials sample or board including color. Also, verify the dumpster pad size as it does not correspond with the dumpster enclosure detail.
3. For the landscaping plan the following comments apply:
 - a. Provide a schedule of proposed landscaping including number of trees proposed, scientific and common names, and size (measured as DBH), 2.5 inches minimum for shade trees, 2 inches for ornamental trees, 6 feet in height for evergreen trees.
 - b. Applicant to indicate existing trees 4 inches DBH and larger for credit against landscaping requirements for this proposal. This would apply to site landscaping requirement. Please coordinate with City staff on both the credit and site landscaping requirement prior to August 18th meeting.
 - c. Provide 1 additional shade tree on Victory Drive frontage (4 required, 3 provided), 3 additional trees on south property line buffer (5 required, 2 provided), Less credit indicated in b. above, provide 6
 - d. Landscaping plan to be provided for site plan consistent with Chapter 1280 of Planning and Zoning Code following preliminary plan review. Plan to include proposed location of new landscaping, existing landscaping to be retained, and a schedule of landscaping materials including number, size and species. Existing landscaping 4 inches DBH or greater may count as credit against landscaping requirements for parking areas, site, and buffer yards.
4. Lighting plan to be provided for site plan consistent with Chapter 1273 of Planning and Zoning Code to staff prior to August 18th meeting. Plan to include photometric analysis, specs for proposed lighting fixtures for site and building, and indication of compliance with color-temperature of lighting (not to exceed 3500° Kelvin) among other design requirements.
5. Final revised and approved site plan shall be submitted to include all comments by staff and planning commission and to have signature of the owner or duly authorized officer and stamped certified by a professional engineer.
6. An "As Built" drawing showing as built location and elevations of all improvements shall be submitted prior to the issuance of an occupancy permit.
7. The Clearcreek Fire District has no comments at this time.

Discussion:

Kurt Zeissler from Burkhart Engineering and Ben Hood from B&E Plumbing were present to address any questions on the application. Mr. Zeissler noted that they have reviewed the staff comments, and are working on a few final details to complete the requirements.

Mr. Boron stated that the lighting plan was received, and any remaining details are minor and can be resolved between staff and the applicant.

Ms. Iverson asked for a motion for approval of the Site Plan for 465 Victory Drive, new commercial building for B & E Plumbing

Mr. Thompson motioned to approve. Mr. Sillies seconded the motion.

Vote: Davis, yes; Sillies, yes; Dimmitt, yes; Iverson, yes; Pearson, yes; Thompson, yes; Harding, yes; (7-0)

B. Preliminary Review, Site Plan Review, 95 West Central Avenue (SR 73), proposed vehicle service facility for Foreign Exchange

Background Information

This agenda item is an application for site plan review filed by Dryden Builders, Inc., on behalf of Foreign Exchange, to permit the construction of a vehicle repair facility at 95 West Central Avenue (SR 73). The subject property is located southeast of the intersection of West Central Avenue and South Main Street. Foreign Exchange proposes to relocate their operation located in Clearcreek Township to the subject property. In addition to the Clearcreek Township location, the company operates other locations in West Chester, Centerville, and Moraine.

The subject property is located in the UVD, Urban Village District. While the applicant has been advised that the proposed use is permitted, the redevelopment of the site and any other in the UVD will need to comply with the high design and development standards of the UVD and the standard site plan review requirements.

Existing land uses include to the east the soon to open Latin Arepas restaurant at 85 West Central Avenue, to the south the former site of Jonathan Wright Elementary School, to the west a single-family residence at 105 West Central Avenue, and to the north on the north side of West Central Avenue, Kleather's pumpkin patch and single-family residence, the small commercial building that houses Scotty's barber shop, and the developing Wright Station development on the former IGA shopping center site.

Existing zoning in the vicinity of the subject property is UVD to the west, north on the north side of West Central Avenue, and east. To the south existing zoning is R-2, Low-Density Residential District, on the former site of Jonathan Wright Elementary School.

The City is in receipt of a letter from the existing property owner indicating authorization to proceed through the development review process prior to sale.

Staff Comments

City staff has the following comments regarding this agenda item:

1. The proposed use to comply with Section 1264.26, Development Standards for Specific Uses, Major and Minor Vehicle Repair.
2. Car washes are not a permitted use in the UVD.
3. Provide justification for volume of parking area proposed for the use. Also the paved area in rear of building is storage and needs to be screened per UVD design and development standards.
4. Build-to lines in the UVD are zero. Provide justification for the build-to lines shown on sheet CP-2.0.

5. What is the timetable for the proposed future building area and its use? What is the timetable for the future potential development area proposed for the southeast corner of the site?
6. Per UVD Section 1267.08(a)(1), Four-Sided Consistency, the west and south elevations do not comply with this requirement. Elevations need to relate to the style of the front elevations. Complexity and level of ornamentation may be reduced on the sides/rear elevations, but no ornamentation or interest is provided.
7. Proposed mural to be reviewed by Zoning Inspector for compliance with sign code and UVD standards.
8. Per UVD Section 1267.08(a)(2), Orientation to Street, the front/north elevation needs to be architecturally enhanced to address this requirement with respect to building entrance(s).
9. Per UVD Section 1267.08(a)(4), Glass Materials, verify that glass proposed is translucent.
10. Per UVD Section 1267.08(a)(6), Rooflines, indicate how proposed building complies with this section's requirements.
11. Per UVD Section 1267.08(a)(9), Building Massing, indicate how proposed building complies with this section's requirements.
12. Per UVD Section 1267.08(a)(10), Opacity, indicate how proposed building complies with this section's requirements.
13. City staff reserves the opportunity to review the proposed landscaping plan in light of UVD requirements, see Section 1267.09, and those of Chapter 1280.
14. Provide an engineered surveyed site plan to include, but not limited to, boundary dimensions and bearings, existing curbing, utilities, natural features, etc.
15. Provide existing and proposed grades and drainage systems and structures with one-foot contours. Elevations and contours shall be based upon USGS datum and identify the benchmark utilized.
16. Provide a record plan dedicating 60 feet of right-of-way across frontage of SR 73 as well as a 10-foot utility easement.
17. Provide a storm water management plan with erosion and sediment control measures including operation and maintenance procedures.
18. Provide storm water detention design/water quality for review.
19. Provide site design details including, but not limited to the following: water and sanitary sewer service, storm sewers, proposed streets, driveways, parking spaces, loading spaces and sidewalks, section and geometric, parking lot pavement typical, and spot elevations throughout parking lot. Provide parking stall dimensions not less than 9 feet wide by 18 feet deep.
20. Provide dumpster enclosure details.
21. Existing curb and gutter along SR 73 to be removed and replaced with ODOT type 2 depressed curb and gutter. Provide concrete apron and sidewalk details.
22. What is the purpose of the 72 foot-wide drive aisle? Vehicle storage?
23. Is the purpose of the showroom to have vehicle sales?
24. Provide location, intensity and orientation and catalog cuttings of all exterior lighting. All exterior lighting shall have a maximum 3500° Kelvin color-temperature. Provide in foot-candles the luminance level produced by the proposed lighting, and also lighting specifications.
25. Final revised and approved site plan shall be submitted to include all comments by staff and Planning Commission to have signature of the owner or duly authorized officer and stamped certified by a professional engineer.
26. An "As Built" drawing showing as built location and elevations of all improvements shall be submitted prior to the issuance of an occupancy permit.
27. The Clearcreek Fire District has no comments at this time.

Discussion:

The applicants who attended the meeting were Chris Hinkel with Dryden buildings, Rick and Gayle Reilich with Foreign Exchange, Chris Papakirk, Topos Studio, Bill Cullen, BC3D Design, and Art Harden, Calibre Engineering.

Mr. Boron reviewed the background and staff comments explaining this item is an application for site plan review filed by Dryden Builders, Inc., on behalf of Foreign Exchange, to permit the construction of a vehicle repair facility at 95 West Central Avenue (SR 73). He stated that the core use of the application is permitted, referring to the long list of staff comments that apply to a UVD zoned property.

Mr. Reilich provided some background on the Foreign Exchange Company that has been in business for over 45 years, and he has owned and operated since 1990. He shared plans to support Springboro development by being a good neighbor and drawing more visitors to the community.

Mr. Hinkel stated that they have reviewed the staff comments and needed clarification on a few items. He explained that they have no intentions of having a car wash, mentioned in comment 2, and provided his justification of the 22-27 parking spaces as requested in comment #3.

Mr. Boron questioned what the percent of overnight parking could be. Mr. Hinkel explained it was minimal and they try to keep the vehicles in a bay or behind the building, away from the street if they are there overnight.

Mr. Boron also reviewed addition screening requirements that are part of the UVD zoning.

Mr. Hinkel shared plans for the possibility of a second L-shaped building on the property in the future.

Mr. Harding noted there were also landscape requirements around the customer parking in the front.

Mr. Hinkel explained that they were confident they could meet all the landscaping and fencing requirements and other site design details as noted in item #19.

Mr. Sillies asked what the plans were for the existing shed on the property.

Mr. Hinkel shared plans to repair and paint the shed which will match the color scheme.

Mr. Dimmit asked if there were any environmental issue with this type of business.

Mr. Hinkel explained that underground drains and oil separators will be regulated by the EPA.

Ms. Reilich also noted that they have a recycle program for the motor oil.

Mr. Boron reviewed other requirements that were noted in the staff comments including setbacks and build-to restrictions for UVD zoned property.

There was a discussion about options for the property, which included additional buildings, splitting the property and leasing portions of the property in the future.

Mr. Hinkel acknowledged the need for a master plan in order to propose additional future development. He shared concerns about the zero build- to requirement and asked if it could be adjusted to 5 or 10 ft.

Ms. Iverson said she would be comfortable with a change to 5 ft.

Mr. Thompson also stated he did not think 10 ft. would be too excessive as well.

Mr. Sillies expressed concern that those setbacks would not work for an urban look.

Mr. Pearson asked for some clarification on the elevations and materials on the building.

Mr. Hinkel further reviewed the proposed drawings explaining details of the elevations, site plan and the materials that will be used.

Mr. Boron explained that the deadline for the September 8th meeting is Friday, August 24th. He felt that this was a good first step to review the project and the applicant is welcome to address the concerns discussed here today and submit a review for the September meeting.

IV. Guest Comments

None.

V. Planning Commission and Staff Comments

Mr. Boron stated that the Public Hearing before City Council for the Easton Farm Development is August 19, 2021 at 7:00.

Mr. Boron stated that next Planning Commission meeting is scheduled for September 8th.

Adjournment

*Mr. Harding motioned to adjourn the August 18, 2021 Planning Commission Regular Meeting at 8:10 p.m.
Mr. Pearson seconded the motion.*

Vote: Sillies, yes; Dimmitt, yes; Iverson, yes; Pearson, yes; Harding, yes; Thompson, yes; Davis, yes. (7-0)

Becky Iverson, Planning Commission Chairperson

Dan Boron, Planning Consultant

Ann Burns, Planning Commission Secretary