

C:\DC\ACD\at\CESO\CCC - Hudson - Civil Master Plan Study\Project Files\CESO\3-CIVIL\PLAN\LOT\Major Site Plans\765295_1 COVER SHEET.dwg - 6/13/2025 - Jake McDaniel

OWNER/DEVELOPER:
CHRIST COMMUNITY CHAPEL
750 W. STREETSBORO STREET
HUDSON, OH 44236
PHONE: (330) 650-9533
CONTACT: JIMMY KOZY

ARCHITECT:
SOL HARRIS DAY
6677 FRANK AVE NW NORTH
CANTON, OH 44720
PHONE: (330) 493-3722
CONTACT: JULIE ZIGA
EMAIL: JZIGA@SOLHARRISDAY.COM

ENGINEER:
CESO, INC.
175 MONTROSE WEST AVE, SUITE 400
AKRON, OH 44321
PHONE: (234) 349-2514
CONTACT: HANNAH OKES, PE
EMAIL: HANNAH.OKES@CESOINC.COM

GOVERNING AGENCIES AND UTILITY COMPANIES:

SEWER:
SUMMIT COUNTY DEPARTMENT OF
SANITARY SEWER SERVICES
RUSSELL M. PRY BUILDING
1180 SOUTH MAIN STREET, SUITE 201
AKRON, OH 44301
PHONE: (330) 926-2405

GAS SERVICE:
ENBRIDGE GAS
PHONE: 1-800-362-7557

WATER:
CITY OF HUDSON PUBLIC WORKS
1769 GEORGETOWN ROAD
HUDSON, OH 44236
PHONE: (330) 342-1750

ELECTRIC:
CITY OF HUDSON PUBLIC WORKS
HUDSON PUBLIC POWER
1769 GEORGETOWN ROAD
HUDSON, OH 44236
PHONE: (330) 342-1750

STORMWATER:
HUDSON PUBLIC WORKS DEPARTMENT
1769 GEORGETOWN ROAD
HUDSON, OH 44236
PHONE: (330) 342-1750

ZONING:
CITY OF HUDSON
1140 TEREX ROAD
HUDSON, OH 44236
PHONE: (330) 342-1790

PROPERTY DATA:

PARCEL OWNER: HUDSON COMMUNITY CHAPEL

PARCEL INFO - LOTS 31 &41 PER SUMMIT COUNTY		AREA OUTSIDE OF ROW
3009095	10.86 AC	9.9690 AC
3009094	4.76 AC	4.9441AC
3007723	14.45 AC	13.6829 AC

ADDRESS: 750 W. STREETSBORO STREET
HUDSON, OH 44236

LOT COVERAGE:
TOTAL AREA OF SITE: 28.596 ACRES

	EXISTING BUILDING	PROPOSED BUILDING
TOTAL BUILDING COVERAGE:	66,126 SF (CHURCH-1ST) 29,757 SF (CHURCH-2ND) 960 SF (GARAGE) 398 SF (RESTROOM)	7,557 SF (ADDITION 1ST FLOOR) 6,812 SF (ADDITION 2ND FLOOR)

FLOOR AREA TO LOT AREA RATIO:
GROSS FLOOR AREA: 111,610 / (28.596*43,560)=0.0896=8.96%
66,126+29,757+960+398+7,557+6,812=111,610 SF

IMPERVIOUS COVERAGE: TOTAL BUILDING (75,041 SF) + TURF SOCCER FIELD (44,500 SF) +
SIDEWALKS/PAVEMENT (364,749 SF) = 484,290 SF

IMPERVIOUS TO LOT AREA RATIO: 484,290 / (28.596*43560)=0.389=38.90%

UNDISTURBED LAND BY USE:
EX. BUILDINGS 66,126 SF (CHURCH) +960 SF (GARAGE) +398 SF (RESTROOM) = 67,484 SF
EX. PAVEMENT & WALKS 349,920 SF
OPEN SPACE & WOODS 657,107 SF

ZONING: DISTRICT 1: SUBURBAN RESIDENTIAL NEIGHBORHOOD
ADJACENT ZONING NORTH & WEST: 6. WESTERN HUDSON GATEWAY
ADJACENT ZONING EAST: 1. SUBURBAN RESIDENTIAL DISTRICT

EXISTING USE: CHURCH CAMPUS / PLACE OF WORSHIP

PROPOSED USE: PROPOSED OFFICE ADDITION

BUILDING SETBACKS	REQUIRED	EXISTING	PROPOSED
FRONTAGE ALONG STREET:	100'	N/A	468' OFF STREETSBORO RD
SIDE:	50'	N/A	813'
REAR:	50'	N/A	241'

PARKING:
TOTAL EXISTING PARKING SPACES: 898
ADA PARKING SPACES: 43
TOTAL PROPOSED PARKING SPACES: 897

FLOODPLAIN DESIGNATION: PARCEL IS LOCATED WITHIN "ZONE X" (AREA OF MINIMAL FLOOD HAZARD) AS INDICATED BY THE FLOOD
INSURANCE RATE MAP (FIRM) COMMUNITY PANEL NUMBER 39153C0126E, EFFECTIVE DATE: 7/20/2009,
PUBLISHED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY.

CITY OF HUDSON, SUMMIT COUNTY, OHIO
SITE IMPROVEMENT PLANS
FOR
CHRIST COMMUNITY CHAPEL
OFFICE ADDITION
750 W. STREETSBORO STREET
HUDSON, OHIO 44236



VICINITY MAP
NOT TO SCALE

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SURVEY BY DIEBEL SURVEYING INC.		DATE
1 OF 2	ALTAINSPS LAND TITLE SURVEY	7/19/2024
2 OF 2	ALTAINSPS LAND TITLE SURVEY	7/19/2024
1 OF 1	EXISTING TREE SITE PLAN	1/23/2025

PROJECT NO. 240628

REFER TO MKSK FOR LANDSCAPE ARCHITECTURE.

ODOT STANDARD CONSTRUCTION DRAWINGS	
ODOT HW-2.1 - HALF HEIGHT HEADWALL	
ODOT MH-1 - MANHOLE NO. 1	



FORTY- EIGHT (48) HOURS
BEFORE DIGGING IS TO
COMMENCE, THE CONTRACTORS
SHALL NOTIFY THE FOLLOWING
AGENCIES: OHIO UTILITIES
PROTECTION SERVICE AT 811 OR
800-362-2764 AND ALL OTHER
AGENCIES WHICH MIGHT HAVE
UNDERGROUND UTILITIES
INVOLVING THIS PROJECT AND
ARE NONMEMBERS OF STATE
UTILITIES PROTECTION SERVICE



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SOL HARRIS/DAY ARCHITECTURE

CHRIST COMMUNITY
CHAPEL

750 W. STREETSBORO STREET
HUDSON, OH 44236

Revisions / Submissions

ID	Description	Date
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Project Number: 765295

Scale: AS SHOWN

Drawn By: KAN

Checked By: JMS

Date: 06/13/2025

Issue: PERMIT SET

Drawing Title:

COVER SHEET

C1.0

GENERAL NOTES

DEMOLITION NOTES

1.

THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS REQUIRED FOR DEMOLITION AND DISPOSAL. THE DEMOLITION, REMOVAL, AND DISPOSAL IS TO BE APPROVED BY ALL GOVERNING AUTHORITIES, OF ALL FACILITIES SUCH AS: STRUCTURES, PADS, WALLS, FLUMES, FOUNDATIONS, PARKING, DRIVES, DRAINAGE, STRUCTURES, UTILITIES, WELLS, ETC., SUCH THAT THE IMPROVEMENTS SHOWN ON THE REMAINING PLANS CAN BE CONSTRUCTED. ALL FACILITIES TO BE REMOVED SHALL BE UNDERCUT TO SUITABLE MATERIAL AND BROUGHT TO GRADE WITH SUITABLE COMPACTED FILL MATERIAL AS SPECIFIED BY A QUALIFIED PROFESSIONAL GEOTECHNICAL ENGINEER. IF UNDOCUMENTED FACILITIES ARE FOUND ON SITE, CONTRACTOR SHALL CONTACT THE OWNER AND UTILITY COMPANY PRIOR TO REMOVAL. ALL FACILITIES SHALL BE PLUGGED, ABANDONED, OR REMOVED PER STATE AND LOCAL REQUIREMENTS.
2.

FEDERAL, STATE AND LOCAL CODE REQUIREMENTS SHALL GOVERN THE DISPOSAL OF DEBRIS INCLUDING ANY POTENTIALLY HAZARDOUS AND TOXIC MATERIALS. ALL MATERIALS AND STRUCTURES DESIGNATED AS "TO BE REMOVED" SHALL BE DISPOSED OF OFF SITE AND AT THE COST OF THE CONTRACTOR.
3.

THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING JOB SITE SAFETY PER OSHA REQUIREMENTS AT ALL TIMES.
4.

PRIOR TO DEMOLITION, IT IS THE CONTRACTOR'S RESPONSIBILITY TO CALL THE STATE 811 AND NOTIFY ALL UTILITY COMPANIES TO SCHEDULE UTILITY SERVICE REMOVAL AND/OR ABANDONMENT. ALL UTILITIES SHALL BE REMOVED/RELOCATED PER THE SPECIFICATIONS OF THE UTILITY COMPANIES. THE CONTRACTOR IS RESPONSIBLE TO PAY ALL FEES AND CHARGES ASSOCIATED WITH THIS WORK
5.

CONTRACTOR SHALL MAINTAIN ALL UTILITY SERVICES TO INHABITED BUILDINGS ON SITE AND ADJACENT PROPERTIES AT ALL TIMES. INTERRUPTIONS SHALL BE APPROVED BY THE OWNERS OF THE BUILDINGS/PROPERTIES.
6.

THE LOCATIONS OF ALL EXISTING UTILITIES SHOWN ON THIS PLAN HAVE BEEN DETERMINED FROM THE BEST INFORMATION AVAILABLE AND ARE GIVEN FOR THE CONVENIENCE OF THE CONTRACTOR. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THEIR ACCURACY. PRIOR TO THE START OF ANY DEMOLITION ACTIVITY, THE CONTRACTOR SHALL NOTIFY THE UTILITY COMPANIES FOR ONSITE LOCATIONS OF EXISTING UTILITIES. IF THE LOCATION OR ELEVATION OF THE EXISTING UTILITIES ARE FOUND TO BE DIFFERENT FROM THE PLANS, CONTRACTOR SHALL CONTACT THE ENGINEER IMMEDIATELY.
7.

CONTRACTOR SHALL PROTECT EXISTING SITE FEATURES TO REMAIN INSIDE AND OUTSIDE CONSTRUCTION LIMITS. CONTRACTOR IS RESPONSIBLE TO DOCUMENT ALL EXISTING DAMAGES AND NOTIFY THE CITY/COUNTY PRIOR TO CONSTRUCTION START. ANY EXISTING SITE FEATURE TO REMAIN THAT IS DAMAGED DURING CONSTRUCTION, SUCH AS, BUT NOT LIMITED TO, DRAINAGE, UTILITIES, PAVEMENT, CURB, ETC. SHALL BE REPAIRED TO A CONDITION THAT IS EQUAL TO, OR BETTER THAN, THE EXISTING CONDITIONS. PRIOR TO BEING DAMAGED, THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ANY DAMAGE TO THE SATISFACTION OF THE OWNER AT NO ADDITIONAL COST.
8.

CONTINUOUS ACCESS SHALL BE MAINTAINED TO THE SURROUNDING PROPERTIES AT ALL TIMES DURING DEMOLITION OF THE EXISTING FACILITIES.
9.

THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING TRAFFIC CONTROL. ALL TRAFFIC CONTROL MEASURES SHALL BE IN ACCORDANCE WITH STATE DEPARTMENT OF TRANSPORTATION REGULATIONS AND LOCAL REGULATIONS.
10.

THE CONTRACTOR IS RESPONSIBLE FOR PLACING AND MAINTAINING CONSTRUCTION FENCE, SIGNS, ETC. TO WARN AND KEEP UNAUTHORIZED PEOPLE OFF SITE FOR THE DURATION OF THE PROJECT.
11.

PRIOR TO DEMOLITION, ALL EROSION CONTROL DEVICES ARE TO BE INSTALLED PER THE GOVERNING AGENCIES GUIDELINES AND STANDARDS. DUST CONTROL SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
12.

SAWCUT LINE PROVIDED IS FOR REFERENCE ONLY. CONTRACTOR WILL BE RESPONSIBLE FOR DETERMINING THE EXTENT OF THE SAWCUT THAT WILL BE REQUIRED AS WELL AS PAVEMENT REPAIRS TO INSTALL UTILITY TRENCHING. IF ANY DAMAGE OCCURS ON ANY OF THE SURROUNDING PAVEMENT, ETC. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ITS REMOVAL AND REPAIR. THE CONTRACTOR IS RESPONSIBLE FOR REMOVING THAT WHICH IS NECESSARY TO COMPLETE THE INTENT OF THE PROPOSED IMPROVEMENTS. SAWCUT EXISTING PAVEMENT TO FULL DEPTH, USING CARE TO CUT NEAT, STRAIGHT LINES. CUT AT EXISTING JOINTS WHERE POSSIBLE.
13.

THE CONTRACTOR SHALL MAINTAIN A WELL-DRAINED SITE, FREE OF STANDING WATER DURING CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TEMPORARY DRAINAGE MEASURES DURING CONSTRUCTION.
14.

IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO STUDY THE PLANS AND VISIT THE SITE TO DETERMINE THE ITEMS THAT MUST BE REMOVED TO COMPLY WITH THE SITE DEVELOPMENT PLANS. NO EXTRA FEE WILL BE PAID FOR THE REMOVAL OF ANY ITEM NOT LISTED THAT IS VISIBLE UPON A SITE VISIT. THE DEMOLITION PLAN IS INTENDED TO PRESENT THE SCOPE OF THE DEMOLITION, AND DOES NOT GUARANTEE THAT ALL ITEMS ARE ADDRESSED.
15.

THE CONTRACTOR SHALL OBTAIN ALL PERMITS FOR ALL SITE DEVELOPMENT WORK, PAY ALL FEES FOR PERMITS AND CHECK ALL GOVERNING AUTHORITIES' SPECIFICATIONS FOR BUT NOT LIMITED TO, GUTTERS, SIDEWALKS, POLES, AND OTHER STRUCTURES, INCLUDING THE REMOVAL OR RELOCATION OF EXISTING UTILITIES OR OTHER PHYSICAL OBJECTS SHOWN ON PLANS OR NOTED OTHERWISE.
16.

THE CONTRACTOR SHALL CREATE AND IMPLEMENT AN EROSION AND SEDIMENTATION CONTROL PLAN FOR ALL SITE CONSTRUCTION ACTIVITIES ASSOCIATED WITH THE PROJECT. THE PLAN MUST CONFORM TO THE EROSION AND SEDIMENTATION REQUIREMENTS OF THE CONSTRUCTION GENERAL PERMIT OR LOCAL STANDARDS AND CODES, WHICHEVER IS MORE STRINGENT.
17.

ALL COSTS FOR INSPECTIONS AND/OR TESTS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR UNLESS NOTED OTHERWISE.

SITE NOTES

1.

ALL WORK AND MATERIALS SHALL COMPLY WITH ALL CITY/COUNTY REGULATIONS AND CODES AND O.S.H.A. STANDARDS.
2.

ALL MATERIAL NOTED ON DRAWINGS WILL BE SUPPLIED BY THE CONTRACTOR UNLESS OTHERWISE NOTED.
3.

CONTRACTOR SHALL REFER TO THE ARCHITECTURAL PLANS TO COORDINATE ACCESS POINTS AND ELEVATIONS. REFER TO ARCHITECTURAL PLANS. FOR EXACT LOCATIONS AND DIMENSIONS OF DOORS, ENTRY RAMP, AND CANOPY.
4.

THE CONTRACTOR SHALL OBTAIN ALL PERMITS FOR ALL SITE DEVELOPMENT WORK, PAY ALL FEES FOR PERMITS AND CHECK ALL GOVERNING AUTHORITIES' SPECIFICATIONS FOR BUT NOT LIMITED TO, GUTTERS, SIDEWALKS, POLES, AND OTHER STRUCTURES, INCLUDING THE REMOVAL OR RELOCATION OF EXISTING UTILITIES OR OTHER PHYSICAL OBJECTS SHOWN ON PLANS OR NOTED OTHERWISE.
5.

THE CONTRACTOR SHALL CREATE AND IMPLEMENT AN EROSION AND SEDIMENTATION CONTROL PLAN FOR ALL SITE CONSTRUCTION ACTIVITIES ASSOCIATED WITH THE PROJECT. THE PLAN MUST CONFORM TO THE EROSION AND SEDIMENTATION REQUIREMENTS OF THE CONSTRUCTION GENERAL PERMIT OR LOCAL STANDARDS AND CODES, WHICHEVER IS MORE STRINGENT.
6.

ALL COSTS FOR INSPECTIONS AND/OR TESTS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR UNLESS NOTED OTHERWISE.
7.

ACCESSIBILITY STANDARDS SHALL BE IN ACCORDANCE WITH FEDERAL AND LOCAL REQUIREMENTS FOR HANDICAP ACCESSIBILITY, INCLUDING BUT NOT LIMITED TO THE AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES. ADA PARKING STALLS SHALL MEET ADA GRADE GUIDELINES. CONTRACTOR SHALL FIELD VERIFY EXISTING GRADES AT ACCESS POINTS, ACCESSIBLE ROUTES, AND EXISTING PARKING TO REMAIN TO DETERMINE COMPLIANCE WITH STANDARDS.
8.

ALL DISTURBED AREAS ARE TO RECEIVE 6" OF TOPSOIL, SEED, MULCH AND WATER UNTIL A HEALTHY STAND OF GRASS IS ESTABLISHED.
9.

ALL DIMENSIONS AND RADII ARE TO THE FACE OF THE CURB OR EDGE OF PAVEMENT, AS APPLICABLE, UNLESS OTHERWISE NOTED.
10.

ALL CURB RADII ARE 5 FEET UNLESS OTHERWISE NOTED.
11.

PROVIDE SIGNAGE AND STRIPING AS SHOWN. ALL SIGNAGE AND PAVEMENT MARKINGS SHALL COMPLY WITH THE GOVERNING MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (M.U.T.C.D.). PAVEMENT MARKINGS ON ASPHALT SHALL BE WHITE. PAVEMENT MARKINGS ON CONCRETE SHALL BE YELLOW.
12.

REFER TO ARCHITECTURAL PLANS FOR PROPOSED BUILDING SIGNAGE.
13.

REFER TO MECHANICAL PLANS FOR EQUIPMENT LAYOUT.
14.

REFER TO ELECTRICAL PLANS FOR ELECTRICAL WORK.
15.

PAVEMENT SECTION THICKNESS TO MATCH EXISTING SECTIONS FROM THE 2007-2008 PLANS BY BRAUN & STEIDL ARCHITECTS. REFER TO DETAILS.
16.

REFER TO ORIGINAL SURVEY PROVIDED BY DEIBEL SURVEYING INC, DATED 07/02/2024.
17.

ALL LIGHT POLES TO BE LOCATED 3' FROM THE BACK OF CURB, AS MEASURED FROM THE FACE OF POLE FOUNDATION, UNLESS OTHERWISE DENOTED ON PLANS.

GRADING NOTES

1.

THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES, AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
2.

THE TOPOGRAPHIC SURVEY WAS PERFORMED BY A REGISTERED LAND SURVEYOR. IF CONTRACTOR DOES NOT ACCEPT EXISTING TOPOGRAPHY AS SHOWN ON THE PLANS, WITHOUT EXCEPTION, HE SHALL HAVE MADE, AT HIS EXPENSE, A TOPOGRAPHIC SURVEY BY A REGISTERED LAND SURVEYOR AND SUBMIT IT TO THE OWNER FOR REVIEW.
3.

CONSTRUCTION SHALL COMPLY WITH ALL APPLICABLE GOVERNING CODES AND BE CONSTRUCTED TO SAME.
4.

THE CONTRACTOR SHALL ADHERE TO ALL TERMS & CONDITIONS AS OUTLINED IN THE EPA OR APPLICABLE STATE GENERAL N.P.D.E.S. PERMIT FOR STORM WATER DISCHARGE ASSOCIATED WITH CONSTRUCTION ACTIVITIES.
5.

EXISTING AND PROPOSED GRADE CONTOUR INTERVALS ARE SHOWN AT 1 FOOT INTERVALS.
6.

ALL SPOT ELEVATIONS REFER TO FINISHED PAVEMENT ELEVATIONS UNLESS OTHERWISE NOTED.
7.

ALL ADA ACCESSIBLE PARKING SPACES AND LOADING AREAS SHALL BE GRADED WITH A 2.0% MAXIMUM SLOPE IN ALL DIRECTIONS. ALL ADA ACCESSIBLE ROUTES SHALL BE GRADED WITH A 2.0% MAXIMUM CROSS SLOPE AND 5.0% MAXIMUM RUNNING SLOPE.
8.

MAINTAIN EXISTING DRAINAGE PATTERN THROUGHOUT THE SITE, EXCEPT WITHIN THE LIMITS OF DISTURBANCE (LOD).
9.

COORDINATE GRADES AT BUILDING ENTRIES WITH ARCHITECTURAL PLANS.
10.

EXISTING DRAINAGE STRUCTURES SHALL BE INSPECTED AND REPAIRED AS NEEDED, AND EXISTING PIPES ARE TO BE CLEANED TO REMOVE ALL SILT AND DEBRIS AFTER CONSTRUCTION IS COMPLETE.
11.

IF ANY EXISTING STRUCTURES TO REMAIN ARE DAMAGED DURING CONSTRUCTION IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPAIR AND/OR REPLACE THE EXISTING STRUCTURE AS NECESSARY TO RETURN IT TO A CONDITION EQUAL TO OR BETTER THAN ITS CONDITION PRIOR TO DAMAGE.
12.

CONTRACTOR SHALL ASSURE POSITIVE DRAINAGE AWAY FROM BUILDING AND WITHIN PAVED AREAS.
13.

ALL TOPSOIL MUST BE REMOVED BEFORE FILL MATERIAL IS PLACED.
14.

ALL WET, OR OTHERWISE UNSUITABLE SOILS MUST BE STABILIZED, THIS MAY BE ACCOMPLISHED BY DRYING, REMOVAL & REPLACEMENT, REMOVAL & DRYING & RECOMPACTION, OR SOIL TREATMENT (LIME/CEMENT) UNDER THE SUPERVISION OF A QUALIFIED PROFESSIONAL GEOTECHNICAL ENGINEER.
15.

ALL UNSURFACED AREAS, DISTURBED BY GRADING, OPERATION SHALL RECEIVE 6" OF TOPSOIL. CONTRACTOR SHALL APPLY STABILIZATION FABRIC TO ALL SLOPES 3H:1V OR STEEPER AND SEED WITH LOW MAINTENANCE GRASS SEED MIX. CONTRACTOR SHALL SEED DISTURBED AREAS IN ACCORDANCE WITH SPECIFICATIONS UNTIL A HEALTHY STAND OF GRASS IS OBTAINED. ALL EXPOSED SURFACE AREAS SHALL BE STABILIZED PER THE SWPPP AND LANDSCAPE REQUIREMENTS AS PART OF THIS PLAN SET.
16.

ALL STORM PIPE ENTERING STRUCTURES SHALL BE GROUTED TO ASSURE CONNECTION AT STRUCTURE IS SOIL TIGHT.
17.

ALL STORM STRUCTURES SHALL HAVE A SMOOTH UNIFORM POURED MORTAR INVERT FROM INVERT IN TO INVERT OUT.
18.

REFER TO STORM DETAILS FOR CITY OF HUDSON ALLOWED MATERIALS, INSTALLATION, AND TESTING. NOTE THAT PIPES LARGER THAN 15" WILL BE REQUIRED TO BE RCP PER CITY CODE.
19.

ALL STORM SEWER STRUCTURE GRATES AND FRAMES WITHIN PAVEMENT SHALL BE HEAVY DUTY.
20.

ALL STORM DRAINAGE SHALL BE PERFORMED IN ACCORDANCE WITH ALL CITY OF HUDSON AND ODOT STANDARDS.
21.

ALL DOWNSPOUT DRAIN LINES OR ROOF LEADERS SHALL HAVE A 1.0% MINIMUM SLOPE, UNLESS OTHERWISE NOTED. CONNECT ALL DOWNSPOUTS AND ROOF LEADERS TO THE STORM SEWER SYSTEM. REFER TO ARCHITECTURAL PLANS FOR DOWNSPOUT AND ROOF LEADER LOCATIONS. PROVIDE POSITIVE DRAINAGE AND PAVEMENT REPAIR AS NEEDED.
22.

ROOF DRAINS, FOUNDATION DRAINS, AND OTHER CLEAN WATER CONNECTIONS TO THE SANITARY SEWER SYSTEM ARE PROHIBITED.
23.

THE STORM SEWER GRADE WILL BE SUCH THAT A MINIMUM COVER IS MAINTAINED TO WITHSTAND AASHTO HS-25 LOADING ON THE PIPE. PROVIDE MINIMUM 2.0 FEET OF COVER FOR ALL STORM SEWERS UNLESS OTHERWISE NOTED.
24.

WHEN A SANITARY SEWER MAIN LIES ABOVE A STORM SEWER, OR WITHIN 18 INCHES BELOW, THE SANITARY SEWER WILL HAVE AN IMPERVIOUS ENCASEMENT OR BE CONSTRUCTED OF STRUCTURAL SEWER PIPE FOR A MINIMUM OF 10 FEET ON EACH SIDE OF WHERE THE STORM SEWER CROSSES.
25.

IF EXISTING FIELD TILES ARE ENCOUNTERED DURING CONSTRUCTION THEY SHALL BE REPAIRED AND/OR TIED INTO A STORM SEWER SYSTEM AS NEEDED TO MAINTAIN POSITIVE DRAINAGE.

UTILITY NOTES

1.

THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES, AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE.
2.

THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
3.

CONTRACTOR SHALL COMPLY TO THE FULLEST EXTENT WITH THE LATEST STANDARDS OF O.S.H.A. DIRECTIVES OR ANY OTHER AGENCY HAVING JURISDICTION FOR EXCAVATION AND TRENCHING PROCEDURES. THE CONTRACTOR SHALL USE SUPPORT SYSTEMS, SLOPING, BENCHING, AND OTHER MEANS OF PROTECTION. THIS TO INCLUDE BUT NOT LIMITED FOR ACCESS AND EGRESS FROM ALL EXCAVATION AND TRENCHING. CONTRACTOR IS RESPONSIBLE TO COMPLY WITH PERFORMANCE CRITERIA FOR O.S.H.A.
4.

CONTRACTOR IS RESPONSIBLE FOR REPAIRS OF DAMAGE TO ANY EXISTING UTILITY DURING CONSTRUCTION AT NO COST TO THE OWNER.
5.

ALL FILL MATERIAL IS TO BE IN PLACE AND COMPACTED BEFORE INSTALLATION OF PROPOSED UTILITIES.
6.

CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES FOR INSTALLATION REQUIREMENTS AND SPECIFICATIONS. THE CONTRACTOR SHALL CONDUCT ALL REQUIRED TESTS TO THE SATISFACTION OF THE RESPECTIVE UTILITY REGULATIONS AND THE OWNER'S INSPECTION AUTHORITIES.
7.

CONTRACTOR SHALL NOTIFY THE UTILITY AUTHORITY'S INSPECTORS 72 HOURS BEFORE CONNECTING TO ANY EXISTING LINE.
8.

WATER AND SANITARY UTILITIES SHALL HAVE TEN (10) FEET OF HORIZONTAL CLEARANCE WHEN PARALLEL OR 18" VERTICAL CLEARANCE WHEN CROSSING. ALL CLEARANCE DISTANCES SHALL BE MEASURE FROM OUTSIDE EDGE OF PIPE TO OUTSIDE EDGE OF PIPE. THE CROSSING SHALL BE ARRANGED SO THAT THE SANITARY SEWER JOINTS WILL BE EQUIDISTANT AND AS FAR AS POSSIBLE FROM THE WATER LINE JOINTS.
9.

IF A WATER LINE PASSES UNDER THE SANITARY SEWER LINE, THE SEWER LINE SHOULD BE CONSTRUCTED OF A WATERTIGHT MATERIAL APPROVED BY THE REGULATORY AGENCY FOR USE IN WATER MAIN CONSTRUCTION AND SHALL EXTEND TEN (10) FEET ON BOTH SIDES OF THE CROSSING, AS MEASURED PERPENDICULAR TO THE WATER LINES. ADEQUATE STRUCTURAL SUPPORT SHALL BE PROVIDED FOR THE SEWER TO MAINTAIN LINE AND GRADE.
10.

UNDERGROUND LINES SHALL BE INSTALLED, INSPECTED AND APPROVED BEFORE BACKFILLING.
11.

CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES FOR INSTALLATION REQUIREMENTS AND SPECIFICATIONS. THE CONTRACTOR SHALL CONDUCT ALL REQUIRED TESTS TO THE SATISFACTION OF THE RESPECTIVE UTILITY REGULATIONS AND THE OWNER'S INSPECTION AUTHORITIES.
12.

UTILITY TRENCHES WITHIN PAVED AREAS TO BE BACKFILLED PER UTILITY TRENCH DETAIL PROVIDED WITHIN THE CONSTRUCTION DETAILS SHEET.
13.

ALL WATER LINE WORK SHALL BE PERFORMED IN ACCORDANCE WITH CITY OF HUDSON WATERLINE STANDARDS, AND RECOMMENDED STANDARDS FOR WATER WORKS (10 STATES STANDARDS), LATEST EDITION AND STATE REGULATIONS.
14.

INSTALL ALL WATER LINES WITH A MINIMUM COVER OF 4'.
15.

ON-SITE WATER LINE MATERIAL SHALL BE PER CITY OF HUDSON STANDARDS, REFER TO WATER DETAILS. PRIOR TO CONSTRUCTION VERIFY ALL CITY OF HUDSON TESTING REQUIREMENTS THAT APPLY TO LATERAL INSTALLATION.
16.

ON-SITE SANITARY SEWER LINE MATERIALS AND INSTALLATION SHALL FOLLOW SUMMIT COUNTY DSSS STANDARD CONSTRUCTION DRAWINGS AND PROCEDURES FOR SANITARY SEWERS. REFER TO THE PROCEDURES AND STANDARD DRAWINGS IN THE CONSTRUCTION DETAILS SHEETS.
17.

REFER TO ARCHITECTURAL DRAWINGS FOR EXACT BUILDING UTILITY CONNECTION LOCATIONS, SERVICE SIZES TO BE DETERMINED BY ARCHITECT.
18.

CLEAN OUTS AND CURB BOXES WITHIN THE PAVED AREAS MUST HAVE TRAFFIC LOADING FRAMES AND COVERS.

EXHIBIT A
GENERAL CONSTRUCTION NOTES

1.

CONSTRUCTION OF THE SITE WORK AND UTILITIES SHALL BE GOVERNED BY THE CITY OF HUDSON'S "ENGINEERING STANDARDS FOR INFRASTRUCTURE CONSTRUCTION", LATEST EDITION.
2.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING AND PAYING FOR ALL PERMITS REQUIRED FOR THE PROJECT.
3.

THE CONTRACTOR MUST ALERT THE OHIO UTILITY PROTECTION SERVICES AT LEAST 48 HOURS BEFORE ANY EXCAVATION IS TO BEIGIN.
4.

ALL EXISTING APPURTENANCES (UTILITY POLES, VALVES, HYDRANTS, MANHOLES, ETC) ARE TO BE MAINTAINED BY THE CONTRACTOR UNLESS OTHERWISE SHOWN ON THE PLANS.
5.

THE DESIGN ENGINEER CERTIFIES THAT ALL UTILITIES ARE SHOWN AS THEY APPEAR ON EXISTING RECORDS OR FIELD LOCATED.
6.

ALL KNOWN ABOVE AND UNDERGROUND SERVICES HAVE BEEN NOTED ON THE DRAWINGS. THE CONTRACTOR ACCEPTS FULL RESPONSIBILITY FOR ANY SERVICES DAMAGED DURING THE CONSTRUCTION OF THE PROJECT WHETHER SHOWN OR NOT ON THE DRAWINGS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING THE SERVICE AS SOON AS POSSIBLE AT THE CONTRACTOR'S OWN EXPENSE.
7.

VIDEO RECORDING OF PROJECT SHALL BE DELIVERED AND ACCEPTED BY THE CITY OF HUDSON ENGINEERING DEPARTMENT A MINIMUM OF 7 CALENDAR DAYS PRIOR TO START OF CONSTRUCTION ACTIVITIES.
8.

NOTIFY THE CITY OF HUDSON ENGINEERING DEPARTMENT A MINIMUM OF FORTY-EIGHT HOURS (2 WORKING DAYS) PRIOR TO THE START OF CONSTRUCTION.
9.

A PRECONSTRUCTION MEETING SHALL BE SCHEDULED A MINIMUM OF 48 HOURS (2 WORKING DAYS) AFTER SUBMISSION OF A MINIMUM OF 6 APPROVED SETS OF PLANS AND ALL SHOP DRAWINGS APPLICABLE TO THE PROPOSED IMPROVEMENTS. A PRECONSTRUCTION MEETING MUST BE HELD PRIOR TO START OF ANY CONSTRUCTION.
10.

THE LIMITS OF CLEARING AND GRADING SHALL BE FIELD STAKED AND LINED WITH ORANGE CONSTRUCTION FENCING 48 HOURS (2 WORKING DAYS) PRIOR TO THE PRECONSTRUCTION MEETING. AREAS BEYOND THE LIMITS OF CLEARING AND GRADING SHALL NOT BE DISTURBED INCLUDING THE STOCKPILE OF ANY MATERIALS OR CONSTRUCTION TRAFFIC.
11.

ALL ROAD SURFACES, EASEMENTS, OR RIGHT-OF-WAY DISTURBED BY THE CONSTRUCTION OF ANY PART OF THESE IMPROVEMENTS ARE TO BE RESTORED ACCORDING TO THE CITY OF HUDSON "ENGINEERING STANDARDS FOR INFRASTRUCTURE CONSTRUCTION" AS DIRECTED BY THE CITY OF HUDSON AND/OR ITS ENGINEER.
12.

THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE CITY OF HUDSON OR ITS REPRESENTATIVE IF SUSPECTED HAZARDOUS MATERIAL OR ANY OTHER MATERIAL THAT MAY CREATE A HEALTH RISK IS DISCOVERED ON SITE.
13.

ALL DISTURBED STORM SEWERS AND/OR APPURTENANCES, SIGNS, GUARD RAILING, MAIL AND/OR PAPER BOXES, DRIVE CULVERTS, FENCES, TREES, LANDSCAPING, OR OTHER ITEMS DISTURBED BY THE CONSTRUCTION SHALL BE RESTORED OR REPAIRED TO AT LEAST THE BEFORE-CONSTRUCTION CONDITION.
14.

ANY DEFECTS DISCOVERED IN NEW CONSTRUCTION, WORKMANSHIP, EQUIPMENT OR MATERIALS SHALL BE REPAIRED, OR CORRECTED BY APPROVED METHODS AS DIRECTED BY THE CITY OF HUDSON.
15.

NUCLEAR COMPACTION TESTING SHALL BE REQUIRED FOR ALL FILL AREAS OVER TWO FEET (2') IN DEPTH, AT 6" LIFTS PER ASTM A-1557, 95% MODIFIED.
16.

APPROVAL BY THE CITY OF HUDSON ENGINEER CONSTITUTES NEITHER EXPRESSED NOR IMPLIED WARRANTIES AS TO THE FITNESS, ACCURACY, OR SUFFICIENCY OF PLANS, DESIGNS OR SPECIFICATIONS.
17.

DURING TAPPING OF EXISTING UTILITIES, ANY TRAFFIC CONTROL REQUESTED OR REQUIRED BY THE CITY OF HUDSON WILL BE PROVIDED BY THE CONTRACTOR AT NO COST TO THE CITY.
18.

COMPLIANCE WITH THE OCCUPATIONAL AND SAFETY ACT OF 1970 IS REQUIRED BY ALL CONTRACTORS ON THIS PROJECT.
19.

ROOF DRAINS, FOUNDATION DRAINS, AND OTHER CLEAN WATER CONNECTIONS TO THE SANITARY SEWER ARE PROHIBITED.
20.

ALL DISTURBED AREAS SHALL RECEIVE 4" OF TOPSOIL AND BE SEEDED AND MULCHED AS PER SECTION 9 - LANDSCAPING AND STREET TREES OF THE CITY'S "ENGINEERING STANDARDS FOR INFRASTRUCTURE CONSTRUCTION", LATEST EDITION.
21.

IF MUD, SOIL, OR OTHER DEBRIS IS DEPOSITED ON ADJACENT STREETS, ROADS, OR OTHER PROPERTY, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF SUCH AS DIRECTED BY THE CITY OF HUDSON OR ITS ENGINEER AT THE END OF EACH WORK DAY, OR AS REQUIRED DURING THE WORK DAY.
22.

ALL PROPOSED SLOPES 3:1 OR STEEPER AND ALL EARTHEN DRAINAGE WAYS SHALL RECEIVE JUTE OR EXCELSIOR MATTING AS PER ODOT 671.
23.

ALL STORM SEWERS WITHIN PUBLIC RIGHTS-OF-WAY AND CITY OF HUDSON EASEMENTS SHALL BE PER SECTION 4 - STORM COLLECTION OF THE CITY'S "ENGINEERING STANDARDS FOR INFRASTRUCTURE CONSTRUCTION", LATEST EDITION.
24.

ALL PIPES SHALL BE PLACED OVER 4" OF BEDDING. BEDDING MATERIAL SHALL BE AS SPECIFIED IN CITY'S "ENGINEERING STANDARDS FOR INFRASTRUCTURE CONSTRUCTION", LATEST EDITION, FOR THE TYPE OF PIPE.
25.

CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING AND PROTECTING THE FLOW OF VEHICULAR AND PEDESTRIAN TRAFFIC AROUND THE JOB SITE. TRAFFIC CONTROL SHALL BE COORDINATED WITH THE CITY OF HUDSON POLICE DEPARTMENT.
26.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING PLANT TICKETS FOR ALL MATERIALS DELIVERED TO THE SITE. PLANT TICKETS MUST SHOW NET QUANTITY OF DELIVERED MATERIAL. MATERIAL DELIVERED OR PLACED WITHOUT PLANT TICKETS SHALL BE REMOVED AND PROPERLY DISPOSED AT THE EXPENSE OF THE CONTRACTOR.
27.

ALL DELIVERED MATERIALS SHALL MEET THE STANDARDS AND SPECIFICATIONS OF THE CITY OF HUDSON OR OTHER APPLICABLE AGENCIES. THE CITY OF HUDSON, OR ITS REPRESENTATIVE, RESERVES THE RIGHT TO REJECT ANY DELIVERED MATERIAL WHICH DOES NOT CONFORM TO THE APPLICABLE STANDARDS AND SPECIFICATIONS.
28.

THE CITY OF HUDSON OR ITS REPRESENTATIVE, RESERVES, THE RIGHT TO HALT ALL CONSTRUCTION ACTIVITY FOR NONCONFORMANCE OF PLANS, SPECIFICATIONS AND OTHER APPLICABLE STANDARDS OR REGULATIONS.
29.

ALL CHANGES TO APPROVED DRAWINGS AND/OR SPECIFICATIONS MUST BE REAPPROVED BY THE CITY OF HUDSON PRIOR TO CONSTRUCTION.
30.

ALL PAVING MATERIAL MUST BE PROVIDED BY ODOT CERTIFIED SUPPLIER. WRITTEN PROOF SHALL BE REQUIRED UPON DELIVERY OF MATERIALS. THE CERTIFIED MIX DESIGN MUST BE SUBMITTED TO, AND APPROVED BY, THE CITY OF HUDSON PRIOR TO SCHEDULING A PRECONSTRUCTION MEETING.
31.

CONTRACTOR/DEVELOPER SHALL PROVIDE ALL REQUIRED ROADWAY SIGNAGE AS PER ODOT MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES INCLUDING STREET IDENTIFICATION SIGNAGE PER CITY STANDARDS FOR ALL ASPECTS OF THE IMPROVEMENT.
32.

ALL BONDS AND OR LETTERS OF CREDIT SHALL NOT BE RELEASED OR REDUCED AND NO WATER OR SANITARY SEWER CUSTOMERS CAN BE CONNECTED UNTIL ALL RECORD DRAWINGS HAVE BEEN SUBMITTED, REVIEWED AND APPROVED BY THE CITY OF HUDSON.
33.

ALL WORK, EXCEPT SIDEWALKS, STREET TREES AND STREET LIGHTS, AS PART OF THESE PLANS SHALL BE COMPLETED, INCLUDING PUNCH LIST ITEMS AND DEFICIENCY WORK WITHIN 1 YEAR OF THE DATE OF APPROVAL BY THE CITY ENGINEER. SIDEWALKS, STREET TREES AND STREET LIGHTS SHALL BE COMPLETED WITHIN TWO YEARS OF THE DATE OF APPROVAL BY THE CITY ENGINEER.
34.

FAILURE TO COMPLETE THE PROJECT IN ITS ENTIRETY AS APPROVED BY THE PLANNING COMMISSION, INCLUDING PUNCH LIST ITEMS, WILL RESULT IN THE CITY OF HUDSON HOLDING ALL FUTURE ZONING CERTIFICATES UNTIL ALL WORK HAS BEEN COMPLETED AND APPROVED.
35.

MANUFACTURERS OR SUPPLIERS AFFIDAVIT FOR ALL CONSTRUCTION MATERIALS SHALL BE PROVIDED AS PER THE CITY'S "ENGINEERING STANDARDS FOR INFRASTRUCTURE CONSTRUCTION", LATEST EDITION PRIOR TO THE START OF CONSTRUCTION.
36.

THE CONSTRUCTION OF SANITARY SEWERS, WATER MAINS, LIFT STATIONS AND APPURTENANCES IS PROHIBITED UNTIL ALL PLANS HAVE BEEN APPROVED BY THE OHIO ENVIRONMENTAL PROTECTION AGENCY.
37.

ALL SANITARY SEWERS SHALL COMPLY WITH THE SUMMIT COUNTY DEPARTMENT OF SANITARY SEWER SERVICES.
38.

SHOP DRAWINGS FOR THE PROPOSED LIGHT FIXTURES SHALL BE ATTACHED TO THE APPROVED LIGHTING PLAN AND SUBMITTED WITH THE SIX SETS OF PLANS AS REQUIRED IN NOTE 8. THE LIGHT FIXTURES SHALL HAVE A RECESSED LAMP, FLAT LENSES AND OPTIONAL HOUSE SHIELDING AVAILABLE. THE CITY MAY REQUIRE HOUSE SHIELDS TO BE ADDED AND OTHER MODIFICATIONS AFTER CONSTRUCTION AT THE EXPENSE OF THE CONTRACTOR.
39.

THE OWNER SHALL SUBMIT A NOTICE OF INTENT (N.O.I) APPLICATION TO THE OHIO ENVIRONMENTAL PROTECTION AGENCY (E.P.A) AND OBTAIN AUTHORIZATION FOR STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (N.P.D.E.S) OR THE LATEST FEDERAL, STATE AND/OR LOCAL REGULATIONS. THE OWNER SHALL SUBMIT A COPY OF THE N.P.D.E.S. PERMIT TO THE CITY OF HUDSON 48 HOURS (2 WORKING DAYS) PRIOR TO SCHEDULING A PRECONSTRUCTION MEETING.
40.

ALL EXCESS EXCAVATED MATERIAL WHICH HAS BEEN STOCKPILED AT THE WORK SITE, AND WHICH WILL NOT BE USED FOR BACKFILL OR OTHER FILL PURPOSES, SHALL BE REMOVED FROM THE PROJECT AREA WITHIN 48 HOURS OF THE EXCAVATION IN ACCORDANCE WITH SECTION 1.20 OF THE ENGINEERING STANDARDS.
41.

ACTIVITIES AND LAND ADJACENT TO THIS PROJECT MAY BE AFFECTED BY CONSTRUCTION NOISE. IN ORDER TO MINIMIZE ANY ADVERSE CONSTRUCTION NOISE IMPACTS, ANY POWER-OPERATED CONSTRUCTION-TYPE DEVICE SHALL NOT BE OPERATED BETWEEN THE HOURS OF 7:00 PM AND 7:00 AM WITHOUT PRIOR APPROVAL OF THE ENGINEER. IN ADDITION, ANY SUCH DEVICE SHALL NOT BE OPERATED AT ANY TIME IN SUCH A MANNER THAT THE NOISE CAUSED SUBSTANTIALLY EXCEEDS THE REASONABLE AND EFFICIENT PERFORMANCE OF SUCH EQUIPMENT.
42.

THERE SHALL BE NO WORK ON PRIVATE PROPERTY WITHOUT WRITTEN CONSENT FROM THE CITY AND THE PRIVATE PROPERTY OWNER.



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6/13/2025

SOL HARRIS/DAY ARCHITECTURE

CHRIST COMMUNITY
CHAPEL
750 W. STREETSBORO STREET
HUDSON, OH 44236

Revisions / Submissions

ID	Description	Date
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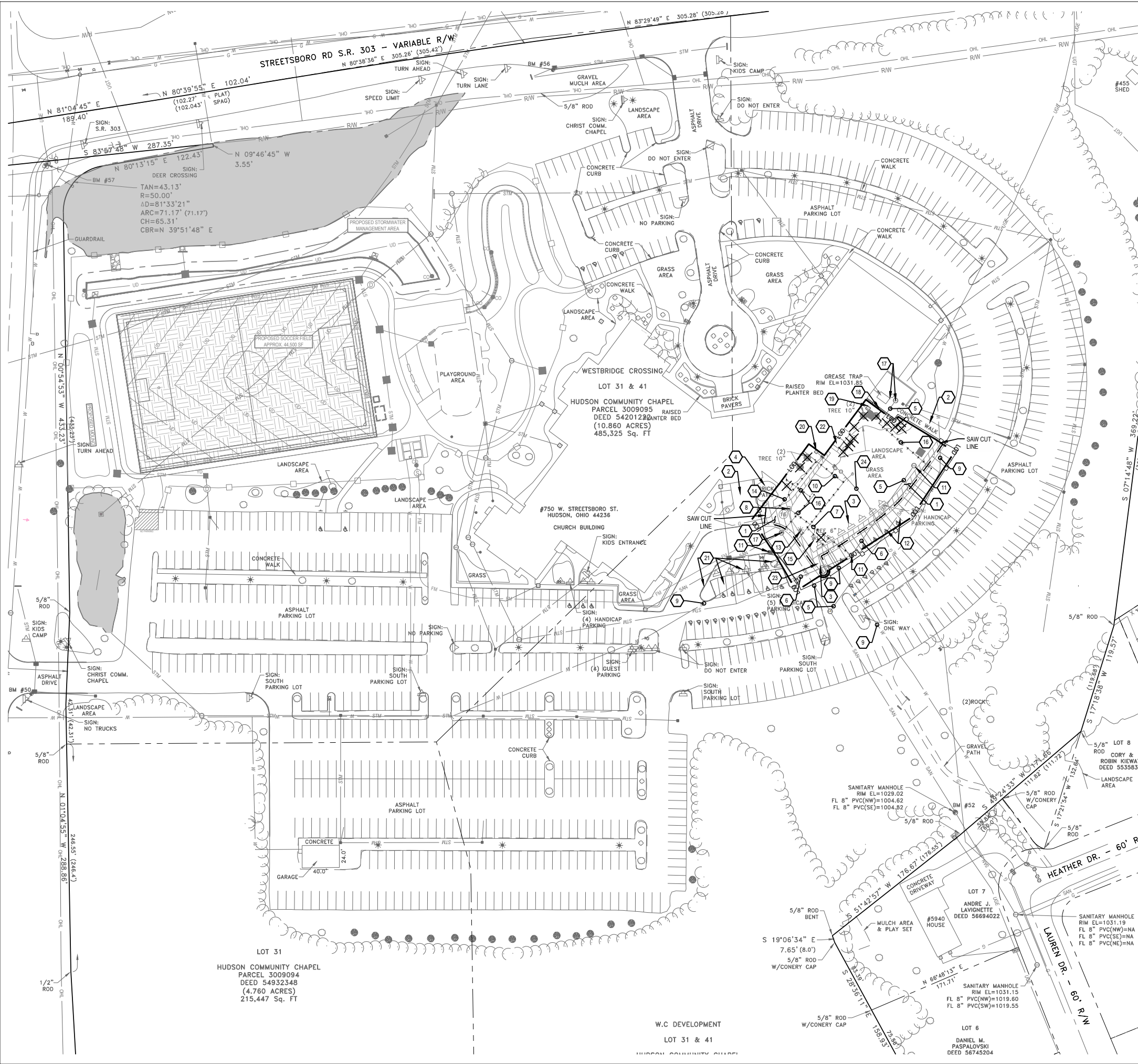
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Project Number:	765295
Scale:	AS SHOWN
Drawn By:	KAN
Checked By:	JMS
Date:	06/13/2025
Issue:	PERMIT SET

Drawing Title:
GENERAL NOTES

C2.0

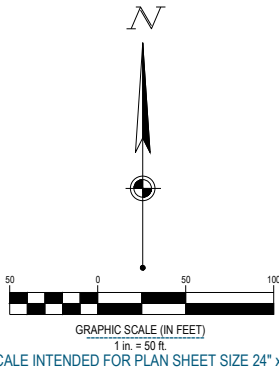
C:\DC\ACD\at\CESO\CCC - Hudson - Civil Master Plan Study\Project Files\CESO\03-CIVIL\PLAN\LOT\Major Site Plans\765295 DEMOLITION PLAN.dwg - 6/13/2025 - Jake McDaniel



DEMOLITION LEGEND	
EXISTING	
REFER TO ALTA SURVEY BY DIEBEL FOR EXISTING FEATURES LEGEND	
PROPOSED	
	REMOVE EXISTING GRAVEL PAVEMENT
	REMOVE EXISTING PAVEMENT (OR AS NOTED ON THE PLANS)
	EXISTING STORM WATER MANAGEMENT
	SAWCUT LINE
	UTILITY LINE TO BE REMOVED / RELOCATED
	REMOVE AND DISPOSE OF EXISTING TREE
	PROTECT EXISTING TREE TO REMAIN. FOR TREE PROTECTION DETAIL, SEE SHEET C8.0.

CODED NOTES:

- EXISTING SIDEWALK TO BE REMOVED.
- EXISTING SIDEWALK TO REMAIN.
- EXISTING SIGN (8) TO BE REMOVED.
- EXISTING BRICK PATIO TO REMAIN.
- EXISTING SANITARY SEWER TO REMAIN.
- EXISTING STORM SEWER TO REMAIN.
- EXISTING STORM SEWER TO BE REMOVED.
- EXISTING STORM STRUCTURE TO REMOVED.
- EXISTING WATER SERVICE LINE TO REMAIN.
- EXISTING WATER SERVICE TO BE REMOVED.
- EXISTING STORM STRUCTURE TO REMAIN.
- EXISTING PAVEMENT MARKING TO BE REMOVED WITHIN LIMITS OF DISTURBANCE.
- EXISTING LIGHT POLE TO BE RELOCATED.
- EXISTING GAS SERVICE LINE TO BE RELOCATED.
- EXISTING FIRE HYDRANT ASSEMBLY TO BE RELOCATED. REFER TO UTILITY PLAN SHEET C7.1 FOR LOCATION.
- EXISTING SANITARY LINE TO BE REMOVED.
- EXISTING SANITARY STRUCTURE TO REMAIN.
- EXISTING WALL TO REMAIN.
- EXISTING CLEANOUT TO REMAIN.
- EXISTING GAS METER TO REMAIN.
- EXISTING PARKING ISLAND CURBS, SIDEWALK, SIGNS, PLANTS, STALLS ALL TO REMAIN.
- EXISTING CHILLER ROOM AND CONCRETE PAD TO REMAIN.
- EXISTING ISLAND TO BE REMOVED.
- EXISTING GAS SERVICE LINE TO REMAIN. CONTRACTOR TO ENCASE PRIOR TO CONSTRUCTION AND PROTECT THROUGHOUT CONSTRUCTION. CONTRACTOR TO COORDINATE WITH GAS COMPANY TO POT HOLE ANY CROSSINGS PRIOR TO CONSTRUCTION. ANY INTERRUPTIONS TO SERVICE SHOULD BE COORDINATED.



FORTY-EIGHT (48) HOURS BEFORE DIGGING IS TO COMMENCE, THE CONTRACTORS SHALL NOTIFY THE FOLLOWING AGENCIES: OHIO UTILITIES PROTECTION SERVICE AT 811 OR 800-362-2764 AND ALL OTHER AGENCIES WHICH MIGHT HAVE UNDERGROUND UTILITIES INVOLVING THIS PROJECT AND ARE NONMEMBERS OF STATE UTILITIES PROTECTION SERVICE



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6/13/2025

SOL HARRIS/DAY ARCHITECTURE

CHRIST COMMUNITY CHAPEL
750 W. STREETSBORO STREET
HUDSON, OH 44236

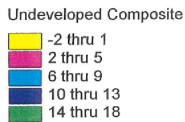
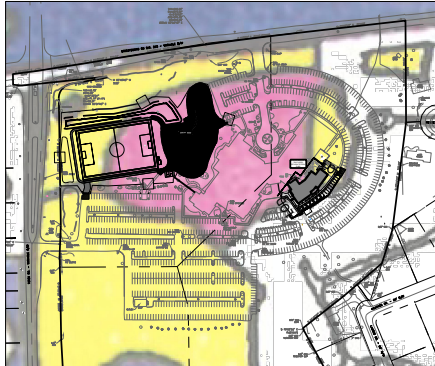
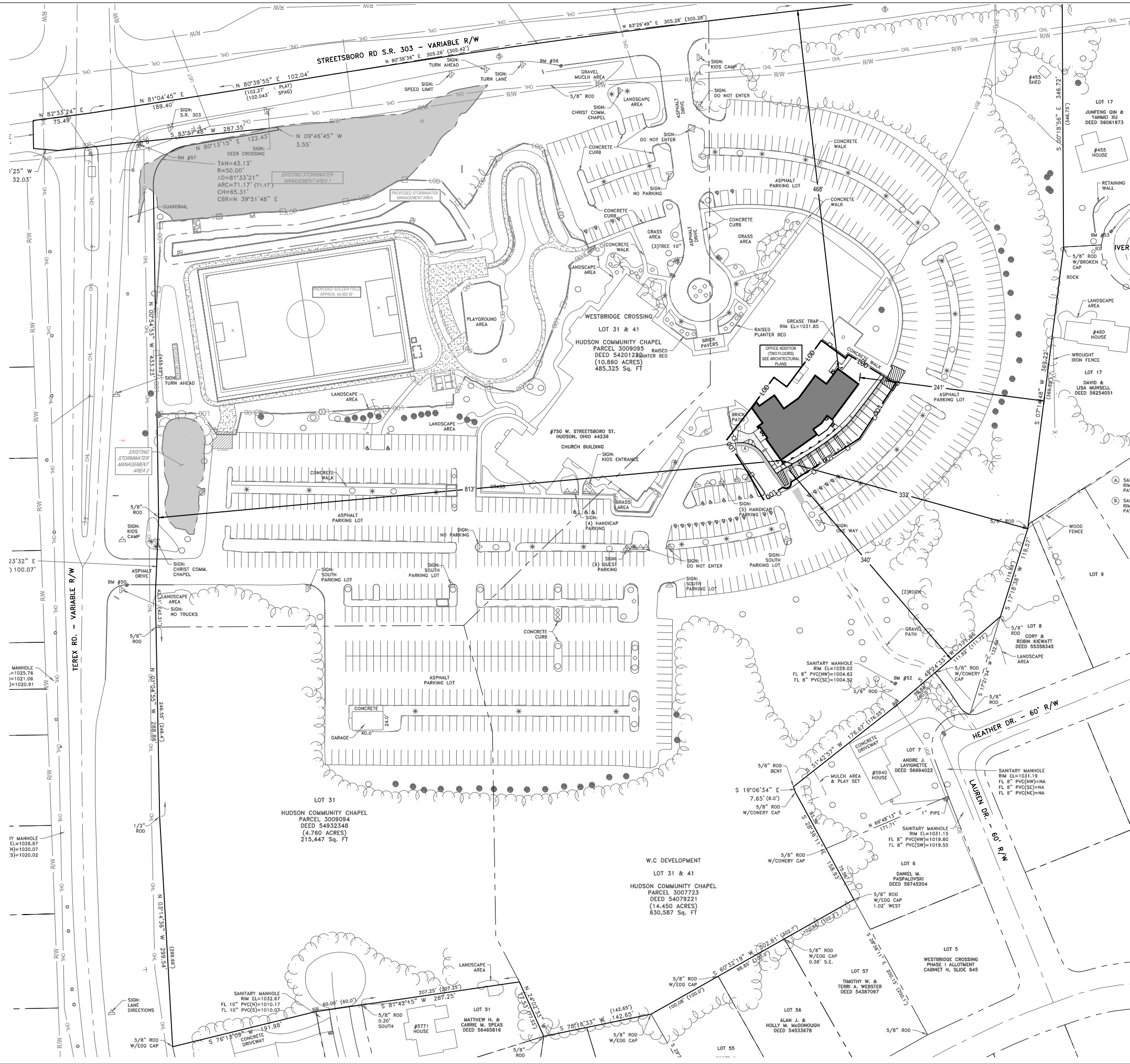
Revisions / Submissions		
ID	Description	Date

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Drawn By: KAN
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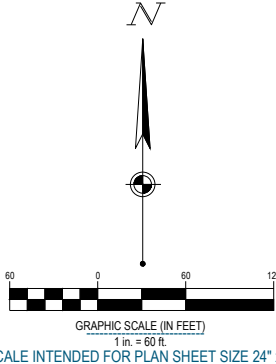
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DEMOLITION PLAN

C3.0

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INDEX OF ECOLOGICAL INTEGRITY



FORTY-EIGHT (48) HOURS BEFORE DIGGING IS TO COMMENCE, THE CONTRACTORS SHALL NOTIFY THE FOLLOWING AGENCIES: OHIO UTILITIES PROTECTION SERVICE AT 811 OR 800-362-2764 AND ALL OTHER AGENCIES WHICH MIGHT HAVE UNDERGROUND UTILITIES INVOLVING THIS PROJECT AND ARE NONMEMBERS OF STATE UTILITIES PROTECTION SERVICE

SITE LEGEND

EXISTING

REFER TO ALTA SURVEY BY DIEBEL FOR EXISTING FEATURES LEGEND

PROPOSED

- | | |
|--|----------------------------|
| | PROPOSED BUILDING |
| | PROPOSED ASPHALT PAVEMENT |
| | PROPOSED CONCRETE SIDEWALK |
| | RIGHT-OF-WAY |
| | PROPERTY LINE |
| | SETBACK |
| | EASEMENT |
| | CENTERLINE |
| | CONCRETE CURB |
| | PAVEMENT/WALK |
| | PARKING SPACE COUNT |
| | SIGN |
| | CATCH BASIN |
| | STORM MANHOLE |
| | SANITARY MANHOLE |
| | CURB INLET |
| | CLEANOUT |
| | YARD DRAIN |
| | DOWN SPOUT |
| | LIGHT POLE |



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SOL HARRIS/DAY ARCHITECTURE

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HUDSON, OH 44236

Revisions / Submissions

ID	Description	Date
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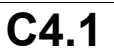
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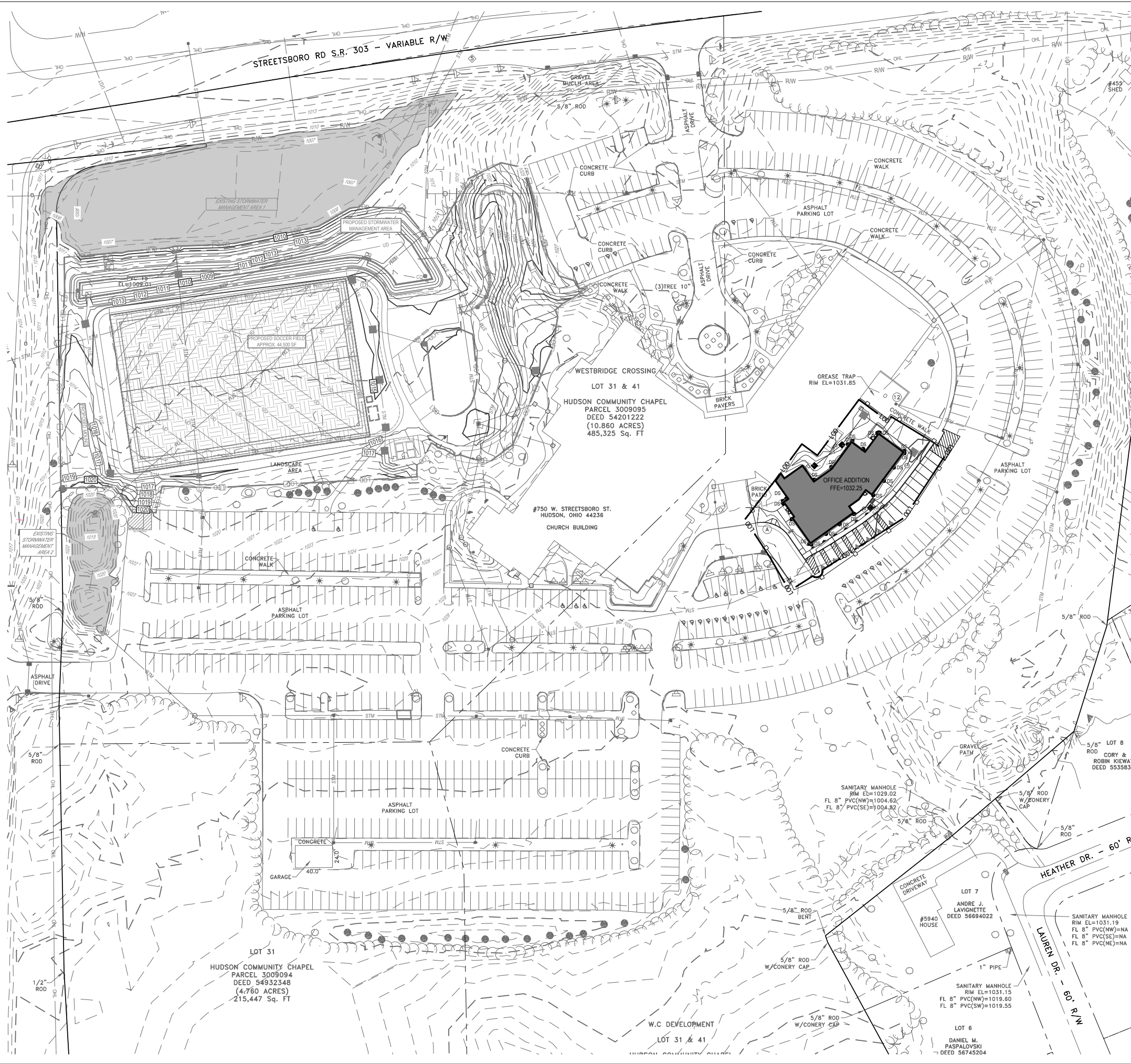
Drawing Title:
OVERALL SITE PLAN

C4.0

FORTY- EIGHT (48) HOURS
 BEFORE DIGGING IS TO
 COMMENCE, THE CONTRACTORS
 SHALL NOTIFY THE FOLLOWING
 AGENCIES: OHIO UTILITIES
 PROTECTION SERVICE AT 811 OR
 800-362-2764 AND ALL OTHER
 AGENCIES WHICH MIGHT HAVE
 UNDERGROUND UTILITIES
 INVOLVING THIS PROJECT AND
 ARE NONMEMBERS OF STATE
 UTILITIES PROTECTION SERVICE



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GRADING LEGEND

EXISTING

REFER TO ALTA SURVEY BY DIEBEL FOR EXISTING FEATURES LEGEND

PROPOSED

	BUILDING
	MAJOR CONTOUR
	MINOR CONTOUR
	STRUCTURE NUMBER
	CATCH BASIN
	CLEANOUT
	YARD DRAIN



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Drawing Title:

OVERALL GRADING PLAN

C5.0

N



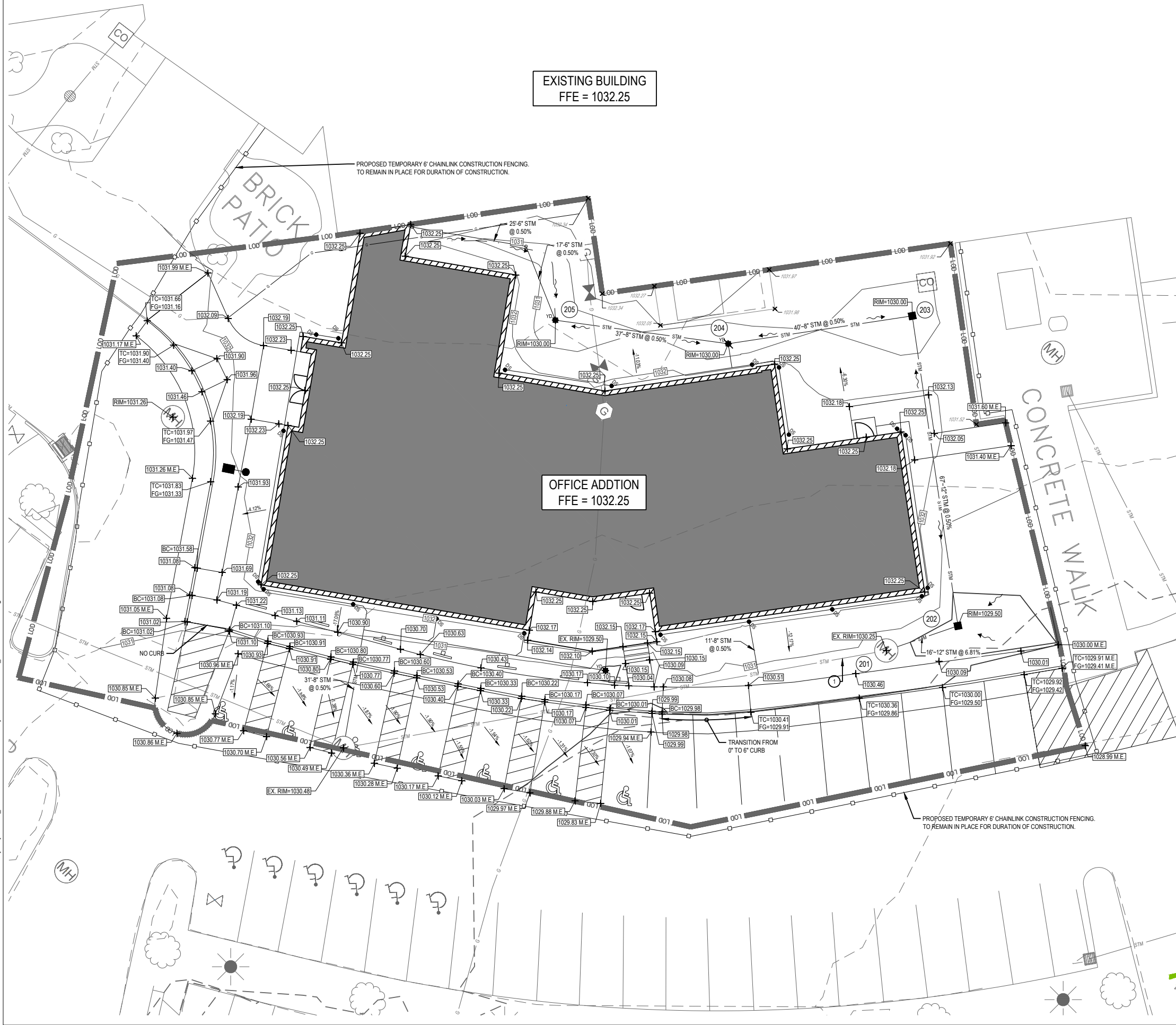
GRAPHIC SCALE (IN FEET)

1 in. = 50 ft.
SCALE INTENDED FOR PLAN SHEET SIZE 24" x 36"

FORTY-EIGHT (48) HOURS BEFORE DIGGING IS TO COMMENCE, THE CONTRACTORS SHALL NOTIFY THE FOLLOWING AGENCIES: OHIO UTILITIES PROTECTION SERVICE AT 811 OR 800-362-2764 AND ALL OTHER AGENCIES WHICH MIGHT HAVE UNDERGROUND UTILITIES INVOLVING THIS PROJECT AND ARE NONMEMBERS OF STATE UTILITIES PROTECTION SERVICE



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GRADING LEGEND

EXISTING

REFER TO ALTA SURVEY BY DIEBEL FOR EXISTING FEATURES LEGEND

PROPOSED

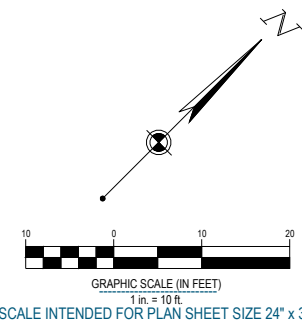
— R/W — RIGHT-OF-WAY
— — — PROPERTY LINE
— — — SWALE
— — — EASEMENT
— — — BUILDING
— — — MAJOR CONTOUR
— — — MINOR CONTOUR
— — — GRADE BREAK
— — — FLOW LINE
— — — STRUCTURE NUMBER
— — — CATCH BASIN
— — — STORM MANHOLE
— — — CURB INLET
— — — CLEANOUT
— — — YARD DRAIN
— — — DOWNSPOUT
— — — FINISHED GRADE ELEVATION
— — — RIM ELEVATION
— — — BACK OF CURB ELEVATION
— — — TOP OF CURB ELEVATION
— — — FINISHED GRADE ELEVATION
— — — MATCH EXISTING ELEVATION
— — — SLOPE ARROW
— — — FLOOD ROUTE

GENERAL NOTES:
SEE SHEET C2.0

CODED NOTES:

- PROPOSED STORM SEWER TO TIE INTO EXISTING STORM MANHOLE. CONTRACTOR TO VERIFY INVERT OF EXISTING STORM SEWER PIPE AND TIE IN AS NECESSARY.

STORM SEWER STRUCTURE SCHEDULE			
NO.	STRUCTURE	RIM	INVERT
201	EX. MH	1030.25	1025.35 (12" NE & SW
202	CATCH BASIN	1029.50	1026.46 (12" NW 1026.46 (12" SW
203	CATCH BASIN	1030.00	1026.79 (8" SW 1026.79 (12" SE
204	YARD DRAIN	1030.00	1026.99 (8" SW 1026.99 (8" NE
205	YARD DRAIN	1030.00	1027.18 (6" NW 1027.18 (8" NE



SCALE INTENDED FOR PLAN SHEET SIZE 24" x 36"



FORTY-EIGHT (48) HOURS BEFORE DIGGING IS TO COMMENCE, THE CONTRACTORS SHALL NOTIFY THE FOLLOWING AGENCIES: OHIO UTILITIES PROTECTION SERVICE AT 811 OR 800-362-2764 AND ALL OTHER AGENCIES WHICH MIGHT HAVE UNDERGROUND UTILITIES INVOLVING THIS PROJECT AND ARE NONMEMBERS OF STATE UTILITIES PROTECTION SERVICE



SOL HARRIS/DAY ARCHITECTURE

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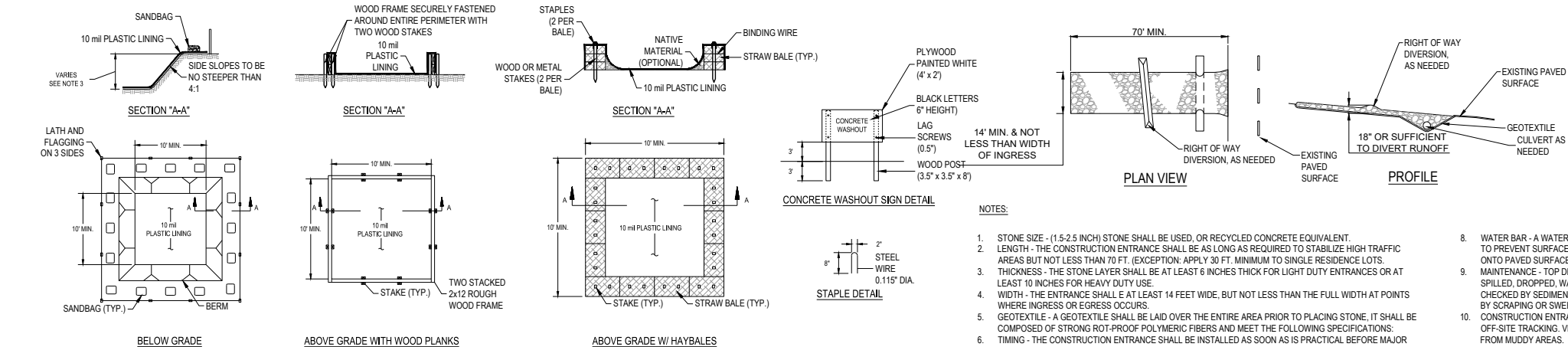
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Drawn By: KAN
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Drawing Title:
OFFICE GRADING PLAN

C5.1

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GEOTEXTILE SPECIFICATION FOR CONSTRUCTION ENTRANCE	
MINIMUM TENSILE STRENGTH	200 lbs.
MINIMUM PUNCTURE STRENGTH	80 psi.
MINIMUM TEAR STRENGTH	50 lbs.
MINIMUM BURST STRENGTH	320 psi.
MINIMUM ELONGATION	20%
EQUIVALENT OPENING SIZE	EOS < 0.6 mm.
PERMITIVITY	1x10-3 cm/sec.

- NOTES:**
1. ACTUAL LAYOUT DETERMINED IN THE FIELD.
 2. THE CONCRETE WASHOUT SIGN SHALL BE INSTALLED WITHIN 30' OF THE TEMPORARY CONCRETE WASHOUT FACILITY.
 3. THE WASHOUT MUST HAVE SUFFICIENT VOLUME TO CONTAIN ALL LIQUID AND CONCRETE WASTE GENERATED BY WASHOUT OPERATIONS INCLUDING BUT NOT LIMITED TO OPERATIONS ASSOCIATED WITH GROUT AND MORTAR.

CONCRETE WASHOUT

NTS

STABILIZED CONSTRUCTION ENTRANCE

NTS

<div>Ohio Environmental Protection Agency</div> <div>Rainwater and Land Development</div> <div>Practice Specification</div> <div>Temporary Seeding</div> <div>Seed and Seeding</div> <div><div><div>1. Select the plant species appropriate for the length of time the area will be idle and the season in which temporary cover is needed. Table 5.6.1 provides guidance on recommended annual species. Equivalent mixes recommended by the Natural Resource Conservation Service - Ohio, Ohio Department of Natural Resources, or Ohio State University's Cooperative Extension may also be used.</div><div><table><caption>Table 5.6.1 Recommended temporary seeding species, seeding rates, and seeding dates. (adapted from USDA-NRCS, Ohio)</caption><tr><th>Annual Plant Species</th><th>Pure Live Seeding Rate (PLSR)</th><th>Seeding Dates</th><th>Seed Depth</th></tr><tr><td>Annual Ryegrass (Lolium multiflorum)</td><td>100</td><td>March 1 to May 1</td><td>1/4 inch</td></tr><tr><td>Spring Oats (Avena sativa)</td><td>128</td><td>March 1 to August 1</td><td>1 inch</td></tr><tr><td>Winter (Cereal) Rye (Secale cereale)</td><td>100</td><td>March 1 to November 1</td><td>1 inch</td></tr><tr><td>Oats (Avena sativa)</td><td>64</td><td>June 1 to August 1</td><td>1 inch</td></tr><tr><td>Sorghum Sudangrass (Sorghum sudangrass)</td><td>40</td><td>June 1 to August 1</td><td>1/4 inch</td></tr><tr><td>Perennial Ryegrass (Lolium perenne)</td><td>20</td><td>June 1 to August 1</td><td>1/4 inch</td></tr><tr><td>Winter Wheat (Triticum aestivum)</td><td>100</td><td>October 1 to November 1</td><td>1 inch</td></tr></table></div><div>2. Seed must be labeled according to Ohio Department of Agriculture regulations and Ohio Revised Code section 907.03.</div><div>3. Complete temporary seeding prior to November 1. Between November 1 and March 1 use mulch temporary stabilization. Mulch temporary stabilization over winter has limited effectiveness at an increased cost.</div><div>4. Thoroughly mix all seed and sow evenly over 100 percent of the prepared areas at the required rates. Apply the seed mix with a mechanical seeder, hydroseeder, or broadcast onto loose soil and in a manner that will result in good seed-to-soil contact. Broadcast seed shall be covered by raking or dragging the soil or using a cultipacker. Note that broadcast seeding may not sufficiently bury annual grains such as oats, wheat, and rye. Annual grains are likely best planted with a seed drill.</div></div><div>Mulching</div><div><div>1. Mulch material shall be applied immediately following the temporary seeding. Apply the mulch material by hand or mechanically to 75 to 90 percent of the soil surface is uniformly covered. Additional protective measures may be necessary to keep soil and seed from washing away on temporarily seeded slopes.</div><div>2. Mulch shall be untreated cereal grain straw applied at the rate of two tons per acre, woodchips with a minimum particle size of 1/4 inches applied to a minimum depth of two inches, wood-fiber hydraulic mulch applied to the manufacturer's specifications at a rate of 1,500 to 2,000 pounds/acre with a tackifier, or rolled erosion control matting applied according to manufacturer's specifications.</div><div>Wood-fiber hydraulic mulches are typically short-lived (less than 3 months) and only relied upon to establish vegetation. Do not apply hydraulic mulches to shallow vegetated channels unless used with an erosion control blanket or to saturated soils.</div></div><div>May 2025</div><div>Chapter 5.6 • Page 3</div></div>	Annual Plant Species	Pure Live Seeding Rate (PLSR)	Seeding Dates	Seed Depth	Annual Ryegrass (Lolium multiflorum)	100	March 1 to May 1	1/4 inch	Spring Oats (Avena sativa)	128	March 1 to August 1	1 inch	Winter (Cereal) Rye (Secale cereale)	100	March 1 to November 1	1 inch	Oats (Avena sativa)	64	June 1 to August 1	1 inch	Sorghum Sudangrass (Sorghum sudangrass)	40	June 1 to August 1	1/4 inch	Perennial Ryegrass (Lolium perenne)	20	June 1 to August 1	1/4 inch	Winter Wheat (Triticum aestivum)	100	October 1 to November 1	1 inch	<div>Ohio Environmental Protection Agency</div> <div>Rainwater and Land Development</div> <div>Ohio Environmental Protection Agency</div> <div>Rainwater and Land Development</div> <div>Ohio Environmental Protection Agency</div> <div>Rainwater and Land Development</div> 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SOL HARRIS/DAY ARCHITECTURE

CHRIST COMMUNITY
CHAPEL

750 W. STREETSBORO STREET
HUDSON, OH 44226

Revisions / Submissions

ID	Description	Date
Project Number: 765295		
Scale: AS SHOWN		
Drawn By: KAN		
Checked By: JMS		
Date: 06/13/2025		
Issue: PERMIT SET		

Drawing Title:

SWPPP DETAILS

C6.1

Site Inspection Report Ohio EPA Construction General Permit #OHC000006		Project Name: _____ NPDES ID Number: _____	
Section A - General Information (If necessary, complete additional inspection reports for each separate inspection location.)			
Inspector Information			
Inspector Name: _____		Email: _____	
Qualification: _____		Phone Number: _____	
Inspection Details			
Inspection Date: _____	Inspection Start Time: _____	Inspection End Time: _____	
Location Inspected: _____		Current Phase of Construction: _____	
Weather Conditions for the period since the last inspection: _____			
Weather Conditions During Inspection: _____			
Required Frequency Basis for This Inspection: <input type="checkbox"/> After an storm event greater than one half-inch of rain per 24-hour period (by the end of the next calendar day, excluding weekends and holidays unless work is scheduled) as determined by <input type="checkbox"/> On-site rain gauge <input type="checkbox"/> Weather station report (Source: _____, Storm event date and start time: _____, Storm event duration: _____, Total rainfall (inches): _____) <input type="checkbox"/> Did a discharge occur? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown <input type="checkbox"/> Once every seven calendar days <input type="checkbox"/> The entire site is temporarily stabilized <input type="checkbox"/> Runoff is unlikely due to extended periods of snow or ice cover, or the ground is frozen			
Section B - Description of Discharges			
Discharge Location: _____	Is a discharge occurring during the inspection? <input type="checkbox"/> Yes <input type="checkbox"/> No		Observations for each point of discharge*: _____
_____	<input type="checkbox"/> Yes <input type="checkbox"/> No		_____
_____	<input type="checkbox"/> Yes <input type="checkbox"/> No		_____
1. Describe the visual quality of the discharge including color, odor, floating, settled, or suspended solids, foam, oil, sheen, and other indicators of stormwater pollutants. Include signs of the above pollutant observations that are visible from your site and attributable to your discharge.			

1

Site Inspection Report Ohio EPA Construction General Permit #OHC000006		Project Name: _____ NPDES ID Number: _____	
Section C - Overall Site Conditions			
Are all BMPs in the SWP3 properly implemented in accordance with the proposed schedule? <input type="checkbox"/> Yes <input type="checkbox"/> No		Notes: _____	
Are all BMPs installed as adequate? <input type="checkbox"/> Yes <input type="checkbox"/> No		Notes: _____	
Are additional BMPs needed that do not exist at the time of the inspection? <input type="checkbox"/> Yes <input type="checkbox"/> No		Notes: _____	
Is there evidence of or the potential for pollutants to discharge? <input type="checkbox"/> Yes <input type="checkbox"/> No		Notes: _____	
Requires Corrective Action? <input type="checkbox"/> Yes <input type="checkbox"/> No		Describe Actions Needed: _____	
Section D - Erosion and Sediment Controls			
Construction Entrance			
Description of Conditions Observed: _____			
Is a construction entrance installed per plan? <input type="checkbox"/> Yes <input type="checkbox"/> No		Notes: _____	
Is sediment being tracked off-site? <input type="checkbox"/> Yes <input type="checkbox"/> No		Notes: _____	
Does sediment need to be removed from the surface? <input type="checkbox"/> Yes <input type="checkbox"/> No		Notes: _____	
Does the runoff drain properly away from the entrance? <input type="checkbox"/> Yes <input type="checkbox"/> No		Notes: _____	
Requires Routine Maintenance? <input type="checkbox"/> Yes <input type="checkbox"/> No		Describe Maintenance Items Needed: _____	
Requires Corrective Action? <input type="checkbox"/> Yes <input type="checkbox"/> No		Describe Actions Needed: _____	

2

Site Inspection Report Ohio EPA Construction General Permit #OHC000006		Project Name: _____ NPDES ID Number: _____	
Permanent Stabilization			
Description of Conditions Observed: _____			
Are all areas of the site at final grade permanently stabilized? <input type="checkbox"/> Yes <input type="checkbox"/> No		Notes: _____	
Have proper methods for seedbed preparation, fertilizer application, and mulching utilized? <input type="checkbox"/> Yes <input type="checkbox"/> No		Notes: _____	
Are critical areas (erosion channels, outlets, steep slopes, etc.) stabilized? <input type="checkbox"/> Yes <input type="checkbox"/> No		Notes: _____	
Requires Routine Maintenance? <input type="checkbox"/> Yes <input type="checkbox"/> No		Describe Maintenance Items Needed: _____	
Requires Corrective Action? <input type="checkbox"/> Yes <input type="checkbox"/> No		Describe Actions Needed: _____	
Temporary Stabilization			
Description of Conditions Observed: _____			
Are all disturbed areas of the site that will be dormant for over 14 days temporarily stabilized? <input type="checkbox"/> Yes <input type="checkbox"/> No		Notes: _____	
Have all stockpiles been temporarily stabilized? <input type="checkbox"/> Yes <input type="checkbox"/> No		Notes: _____	
Does existing temporary stabilization provide sufficient and effective cover? <input type="checkbox"/> Yes <input type="checkbox"/> No		Notes: _____	
Requires Routine Maintenance? <input type="checkbox"/> Yes <input type="checkbox"/> No		Describe Maintenance Items Needed: _____	
Requires Corrective Action? <input type="checkbox"/> Yes <input type="checkbox"/> No		Describe Actions Needed: _____	

3

Site Inspection Report Ohio EPA Construction General Permit #OHC000006		Project Name: _____ NPDES ID Number: _____	
Sediment Settling Pond			
Description of Conditions Observed: _____			
Is a sediment settling pond installed per plan? <input type="checkbox"/> Yes <input type="checkbox"/> No		Notes: _____	
Does runoff enter the pond without causing erosion or bypassing the control? <input type="checkbox"/> Yes <input type="checkbox"/> No		Notes: _____	
Are the banks stabilized? <input type="checkbox"/> Yes <input type="checkbox"/> No		Notes: _____	
Is the culvert installed and functioning properly? <input type="checkbox"/> Yes <input type="checkbox"/> No		Notes: _____	
Does the diverting volume drain entirely through the skimmer? <input type="checkbox"/> Yes <input type="checkbox"/> No		Notes: _____	
Is the outlet free of obstructions? <input type="checkbox"/> Yes <input type="checkbox"/> No		Notes: _____	
Does the pond have sediment storage capacity? <input type="checkbox"/> Yes <input type="checkbox"/> No		Notes: _____	
Requires Routine Maintenance? <input type="checkbox"/> Yes <input type="checkbox"/> No		Describe Maintenance Items Needed: _____	
Requires Corrective Action? <input type="checkbox"/> Yes <input type="checkbox"/> No		Describe Actions Needed: _____	

4

Site Inspection Report Ohio EPA Construction General Permit #OHC000006		Project Name: _____ NPDES ID Number: _____	
Sediment Barriers			
Description of Conditions Observed: _____			
Are sediment barriers installed as planned in the SWP3? <input type="checkbox"/> Yes <input type="checkbox"/> No		Notes: _____	
Is the barrier sealed to the ground with well-sorted and without gaps or openings such that water ponds behind it? <input type="checkbox"/> Yes <input type="checkbox"/> No		Notes: _____	
Does captured sediment need to be removed from behind the barrier? <input type="checkbox"/> Yes <input type="checkbox"/> No		Notes: _____	
Requires Routine Maintenance? <input type="checkbox"/> Yes <input type="checkbox"/> No		Describe Maintenance Items Needed: _____	
Requires Corrective Action? <input type="checkbox"/> Yes <input type="checkbox"/> No		Describe Actions Needed: _____	
Storm Drain Inlet Protection			
Description of Conditions Observed: _____			
Is storm drain inlet protection installed as planned in the SWP3? <input type="checkbox"/> Yes <input type="checkbox"/> No		Notes: _____	
Are all operational inlets receiving sediment-laden water protected? <input type="checkbox"/> Yes <input type="checkbox"/> No		Notes: _____	
Does runoff bypass the device through tears, seams, gaps, or holes? <input type="checkbox"/> Yes <input type="checkbox"/> No		Notes: _____	
Does captured sediment need to be removed from the device? <input type="checkbox"/> Yes <input type="checkbox"/> No		Notes: _____	
Requires Routine Maintenance? <input type="checkbox"/> Yes <input type="checkbox"/> No		Describe Maintenance Items Needed: _____	
Requires Corrective Action? <input type="checkbox"/> Yes <input type="checkbox"/> No		Describe Actions Needed: _____	

5

Site Inspection Report Ohio EPA Construction General Permit #OHC000006		Project Name: _____ NPDES ID Number: _____	
OTHER CONTROL: _____			
Description of Conditions Observed: _____			
Requires Routine Maintenance? <input type="checkbox"/> Yes <input type="checkbox"/> No		Describe Maintenance Items Needed: _____	
Requires Corrective Action? <input type="checkbox"/> Yes <input type="checkbox"/> No		Describe Actions Needed: _____	
OTHER CONTROL: _____			
Description of Conditions Observed: _____			
Requires Routine Maintenance? <input type="checkbox"/> Yes <input type="checkbox"/> No		Describe Maintenance Items Needed: _____	
Requires Corrective Action? <input type="checkbox"/> Yes <input type="checkbox"/> No		Describe Actions Needed: _____	
OTHER CONTROL: _____			
Description of Conditions Observed: _____			
Requires Routine Maintenance? <input type="checkbox"/> Yes <input type="checkbox"/> No		Describe Maintenance Items Needed: _____	
Requires Corrective Action? <input type="checkbox"/> Yes <input type="checkbox"/> No		Describe Actions Needed: _____	

6

Site Inspection Report Ohio EPA Construction General Permit #OHC000006		Project Name: _____ NPDES ID Number: _____	
Section D - Pollution Controls			
Are all controls to prevent the following pollutants from entering the drainage system or discharging installed, maintained, and operating effectively?			
Dewatering <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		Notes: _____	
Washout of Concrete and other materials <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		Notes: _____	
Fuel Storage & Handling <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		Notes: _____	
Trash Storage & Handling <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		Notes: _____	
Agricultural Storage & Handling <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		Notes: _____	
Petroleum Product Storage & Handling <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		Notes: _____	
Toxic Materials Storage & Handling <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		Notes: _____	
Sanitary Waste <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		Notes: _____	
Requires Routine Maintenance? <input type="checkbox"/> Yes <input type="checkbox"/> No		Describe Maintenance Items Needed: _____	
Requires Corrective Action? <input type="checkbox"/> Yes <input type="checkbox"/> No		Describe Actions Needed: _____	

7

Site Inspection Report Ohio EPA Construction General Permit #OHC000006		Project Name: _____ NPDES ID Number: _____	
Section E - Site Compliance Summary			
<input type="checkbox"/> I certify that on the date of this inspection, the site was found to be in compliance with the terms of the applicable Construction General Permit.			
<input type="checkbox"/> The following corrective actions are required by the established completion date*:			
Corrective Action: _____		Complete By: _____	
_____		_____	
_____		_____	
_____		_____	
_____		_____	
_____		_____	
Section F - Signature and Certification			
*I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information contained therein. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information contained is, to the best of my knowledge and belief, true, accurate, and complete. I have no personal knowledge that the information submitted is other than true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."			
Signature of Inspector or "Duly Authorized Representative"			
Signature: _____		Date: _____	
Printed Name: _____		Affiliation: _____	
1. If the inspection reveals that a control practice needs repair or maintenance, it shall be repaired or maintained within 7 days of the inspection. Sediment settling ponds shall be repaired or maintained within 30 days of the inspection. If the inspection reveals that a control practice fails to perform its intended function and that another, more appropriate control practice is required, the BMP shall be assessed, and the new control practice shall be installed within 30 days of the inspection. If the inspection reveals that a control practice has not been implemented in accordance with the schedule, the control practice shall be implemented within 30 days from the date of the inspection. If the inspection reveals that the planned control practice is not needed, the record shall contain a statement of explanation as to why the control practice is not needed.			

8

REFER TO WEBSITE: https://dam.assets.ohio.gov/image/upload/eps.ohio.gov/Portals/35/storm/CGP_Ins1.pdf FOR PRINTABLE VERSIONS OF REPORT



CESO
WWW.CESONC.COM

175 Montrose West Ave., Suite 400
Akron, OH 44321
Phone: 330.665.0660 Fax: 888.208.4826



6/13/2025

SOL HARRIS/DAY ARCHITECTURE

CHRIST COMMUNITY
CHAPEL

750 W. STREETSBO RO STREET
HUDSON, OH 44236

Revisions / Submissions

ID	Description	Date
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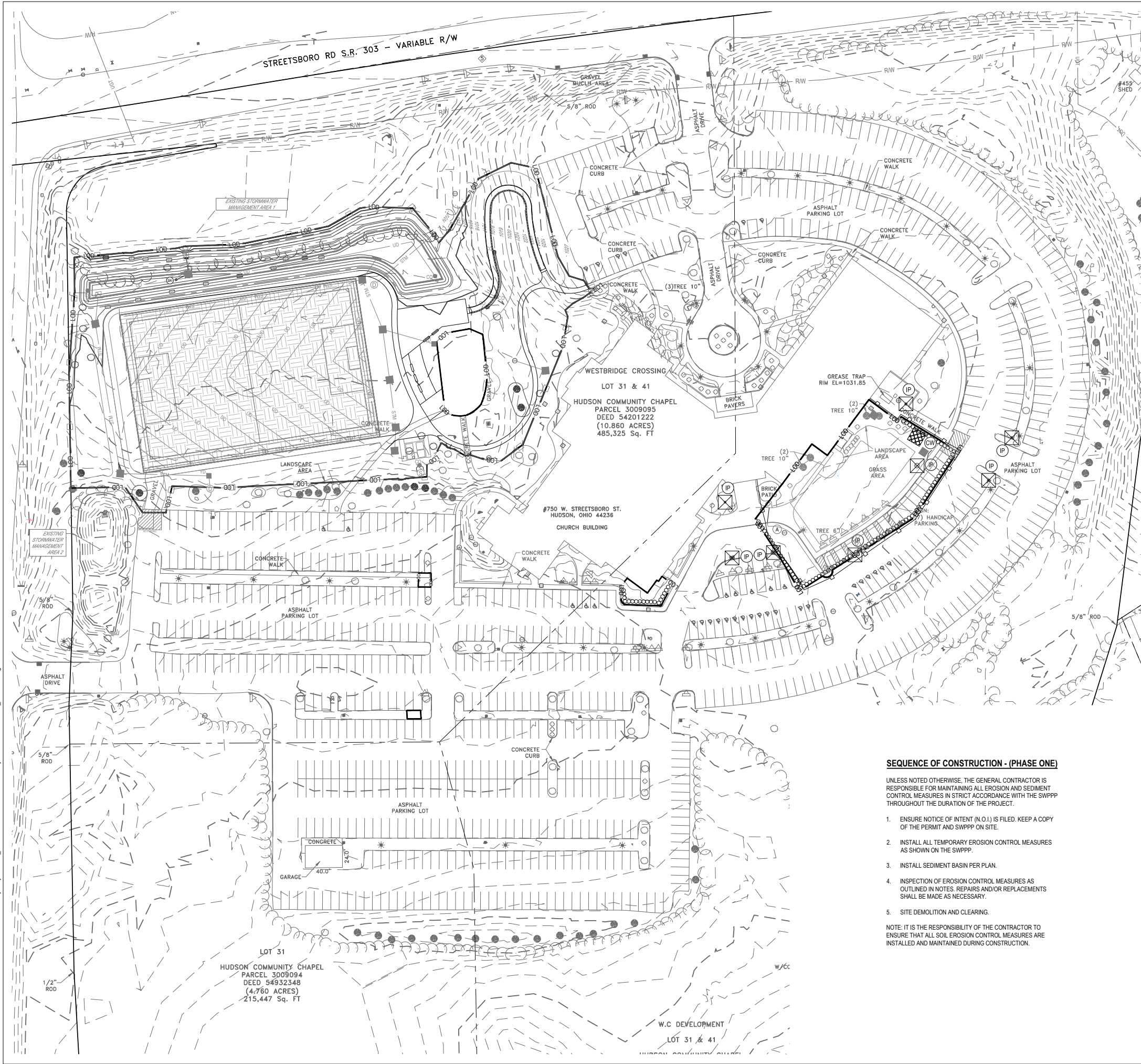
© 2025 CESO, INC.

Project Number:	765295
Scale:	AS SHOWN
Drawn By:	KAN
Checked By:	JMS
Date:	06/13/2025
Issue:	PERMIT SET

Drawing Title:
SWPPP DETAILS

C6.2

C:\D:\ACD\Draws\CES0103-Civil\PL\ANP\LOT\Major Site Plans\765295_SWPPP.dwg - 6/13/2025 - Jake McDaniel



SEQUENCE OF CONSTRUCTION - (PHASE ONE)

UNLESS NOTED OTHERWISE, THE GENERAL CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ALL EROSION AND SEDIMENT CONTROL MEASURES IN STRICT ACCORDANCE WITH THE SWPPP THROUGHOUT THE DURATION OF THE PROJECT.

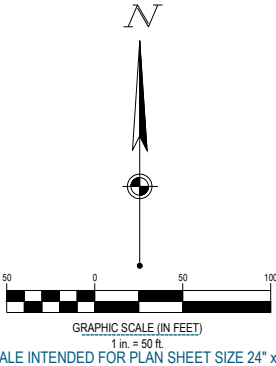
1. ENSURE NOTICE OF INTENT (N.O.I.) IS FILED. KEEP A COPY OF THE PERMIT AND SWPPP ON SITE.
2. INSTALL ALL TEMPORARY EROSION CONTROL MEASURES AS SHOWN ON THE SWPPP.
3. INSTALL SEDIMENT BASIN PER PLAN.
4. INSPECTION OF EROSION CONTROL MEASURES AS OUTLINED IN NOTES. REPAIRS AND/OR REPLACEMENTS SHALL BE MADE AS NECESSARY.
5. SITE DEMOLITION AND CLEARING.

NOTE: IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE THAT ALL SOIL EROSION CONTROL MEASURES ARE INSTALLED AND MAINTAINED DURING CONSTRUCTION.

SWPPP LEGEND	
EXISTING	
REFER TO ##### FOR EXISTING FEATURES LEGEND	
PROPOSED	
	MAJOR CONTOUR
	MINOR CONTOUR
	PAVEMENT/WALK
	STORM SEWER
	SILT FENCE
	COMPOST SOCK
	GRADING/SEEDING LIMITS
	LIMIT OF DISTURBANCE
	STORAGE AREA
	INLET PROTECTION
	STORM MANHOLE
	CATCH BASIN
	CURB INLET
	CONCRETE WASHOUT AREA

GENERAL NOTES

1. ADDITIONAL EROSION AND SEDIMENT CONTROLS MAY BE REQUIRED AS IDENTIFIED WITH OEPA AND LOCAL JURISDICTION INSPECTOR.
2. CONTRACTOR SHALL REVIEW THE COMPLETE DRAWING SET AND NOTIFY THE DESIGN PROFESSIONAL IN WRITING PRIOR TO CONSTRUCTION, IF ANY DISCREPANCIES ARE FOUND WITHIN THE DRAWINGS OR WITH ACTUAL FIELD CONDITIONS.
3. ALL STORMWATER POLLUTION PREVENTION PLANS, NOTES AND DETAILS SHALL COMPLY WITH THE OEPA RAINWATER AND LAND DEVELOPMENT MANUAL.
4. CONTRACTOR IS RESPONSIBLE TO MAINTAIN POST-CONSTRUCTION PERMANENT EROSION CONTROL MEASURES UNTIL ADEQUATE RE-VEGETATION AND STABILIZATION ARE ACHIEVED.
5. REMOVE ALL ON SITE FEATURES AS SHOWN ON THE PLAN AND LEGALLY DISPOSE OFF SITE.
6. PROTECT EXISTING SITE FEATURES TO REMAIN OUTSIDE CONSTRUCTION LIMITS. REPAIR ANY DAMAGE TO THE SATISFACTION OF THE OWNER AT NO ADDITIONAL COST.
7. USE ANY MEANS NECESSARY AND ACCEPTABLE TO THE JURISDICTION TO CONTROL DUST AT THE SITE. PROVIDE STREET CLEANING WHEN NECESSARY OR AS DIRECTED.
8. SILT FENCE SHOWN OFF OF LIMITS OF DISTURBANCE FOR CLARITY PURPOSES ONLY. CONTRACTOR TO ENSURE SILT FENCE IS PLACED AT LIMITS OF DISTURBANCE. ANY DISCREPANCIES SHOULD BE BROUGHT TO THE ENGINEER PRIOR TO PLACEMENT OF ANY EROSION CONTROL MEASURES.
9. TEMPORARY 6' CHAINLINK CONSTRUCTION FENCING SHOWN OFF OF LIMITS OF DISTURBANCE FOR CLARITY PURPOSES ONLY. FENCE TO REMAIN IN PLACE FOR DURATION OF CONSTRUCTION.



FORTY-EIGHT (48) HOURS BEFORE DIGGING IS TO COMMENCE, THE CONTRACTORS SHALL NOTIFY THE FOLLOWING AGENCIES: OHIO UTILITIES PROTECTION SERVICE AT 811 OR 800-362-2764 AND ALL OTHER AGENCIES WHICH MIGHT HAVE UNDERGROUND UTILITIES INVOLVING THIS PROJECT AND ARE NONMEMBERS OF STATE UTILITIES PROTECTION SERVICE



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750 W. STREETSBORO STREET
HUDSON, OH 44236

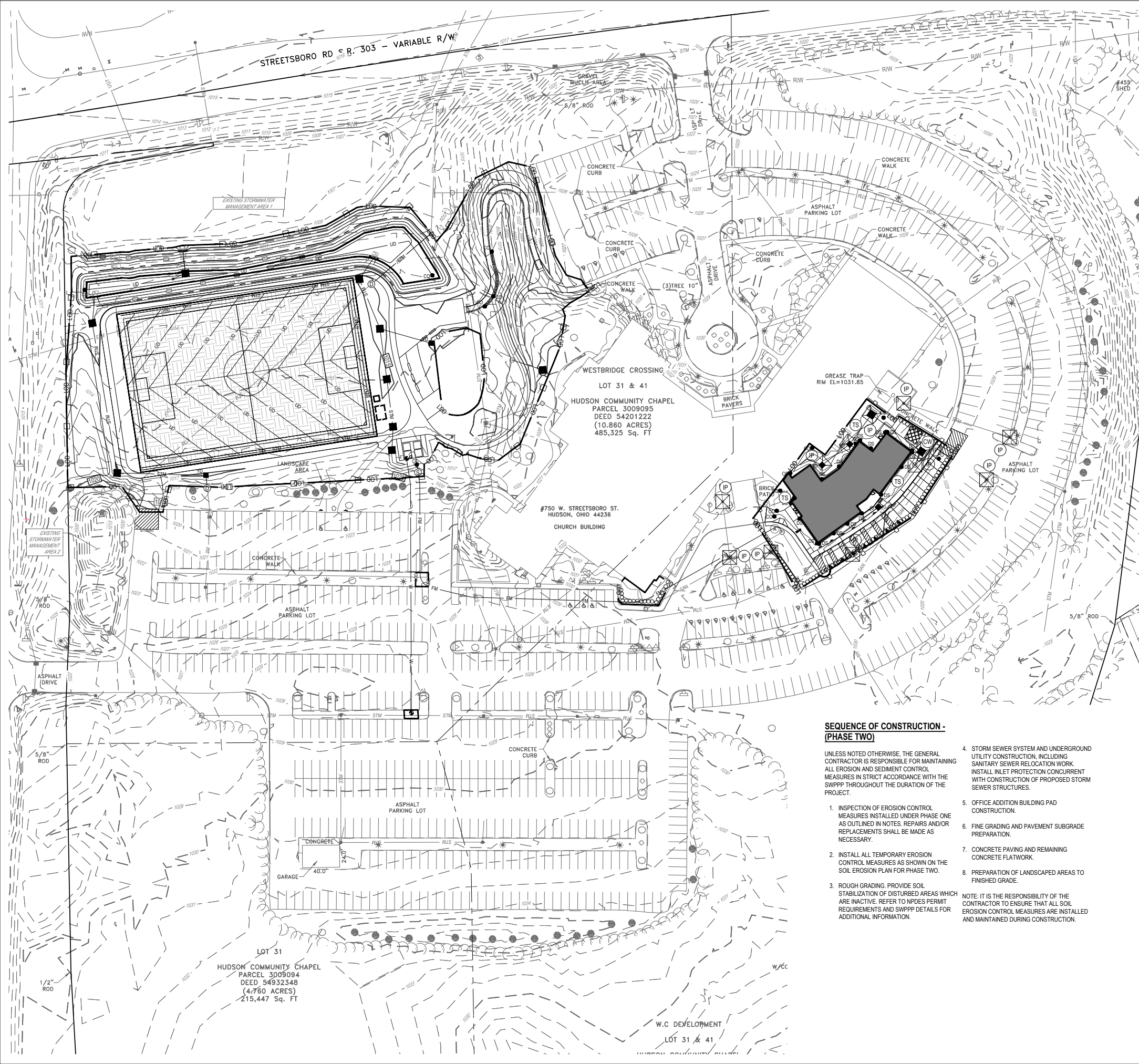
Revisions / Submissions		
ID	Description	Date

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Date: 06/13/2025
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Drawing Title:
SWPPP PHASE 1

C6.3

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**SEQUENCE OF CONSTRUCTION -
(PHASE TWO)**

UNLESS NOTED OTHERWISE, THE GENERAL CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ALL EROSION AND SEDIMENT CONTROL MEASURES IN STRICT ACCORDANCE WITH THE SWPPP THROUGHOUT THE DURATION OF THE PROJECT.

1. INSPECTION OF EROSION CONTROL MEASURES INSTALLED UNDER PHASE ONE AS OUTLINED IN NOTES. REPAIRS AND/OR REPLACEMENTS SHALL BE MADE AS NECESSARY.
2. INSTALL ALL TEMPORARY EROSION CONTROL MEASURES AS SHOWN ON THE SOIL EROSION PLAN FOR PHASE TWO.
3. ROUGH GRADING. PROVIDE SOIL STABILIZATION OF DISTURBED AREAS WHICH ARE INACTIVE. REFER TO NPDES PERMIT REQUIREMENTS AND SWPPP DETAILS FOR ADDITIONAL INFORMATION.

4. STORM SEWER SYSTEM AND UNDERGROUND UTILITY CONSTRUCTION, INCLUDING SANITARY SEWER RELOCATION WORK. INSTALL INLET PROTECTION CONCURRENT WITH CONSTRUCTION OF PROPOSED STORM SEWER STRUCTURES.

5. OFFICE ADDITION BUILDING PAD CONSTRUCTION.
6. FINE GRADING AND PAVEMENT SUBGRADE PREPARATION.
7. CONCRETE PAVING AND REMAINING CONCRETE FLATWORK.
8. PREPARATION OF LANDSCAPED AREAS TO FINISHED GRADE.

NOTE: IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE THAT ALL SOIL EROSION CONTROL MEASURES ARE INSTALLED AND MAINTAINED DURING CONSTRUCTION.

SWPPP LEGEND

EXISTING

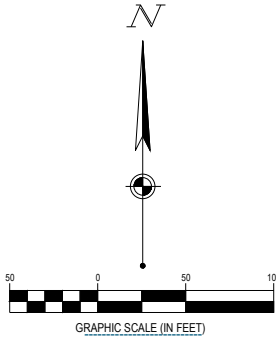
REFER TO ALTA SURVEY BY DIEBEL FOR EXISTING FEATURES LEGEND

PROPOSED

- | | |
|--|------------------------|
| | MAJOR CONTOUR |
| | MINOR CONTOUR |
| | PAVEMENT/WALK |
| | STORM SEWER |
| | SILT FENCE |
| | COMPOST SOCK |
| | GRADING/SEEDING LIMITS |
| | LIMIT OF DISTURBANCE |
| | CONCRETE WASHOUT |
| | INLET PROTECTION |
| | STORM MANHOLE |
| | CATCH BASIN |
| | CURB INLET |
| | TEMPORARY SEEDING |
| | PERMANENT SOD |
| | CONCRETE WASHOUT AREA |
| | INLET PROTECTION |

GENERAL NOTES

1. ADDITIONAL EROSION AND SEDIMENT CONTROLS MAY BE REQUIRED AS IDENTIFIED WITH OEPA AND LOCAL JURISDICTION INSPECTOR.
2. CONTRACTOR SHALL REVIEW THE COMPLETE DRAWING SET AND NOTIFY THE DESIGN PROFESSIONAL IN WRITING PRIOR TO CONSTRUCTION, IF ANY DISCREPANCIES ARE FOUND WITHIN THE DRAWINGS OR WITH ACTUAL FIELD CONDITIONS.
3. ALL STORMWATER POLLUTION PREVENTION PLANS, NOTES AND DETAILS SHALL COMPLY WITH THE OEPA RAINWATER AND LAND DEVELOPMENT MANUAL.
4. CONTRACTOR IS RESPONSIBLE TO MAINTAIN POST-CONSTRUCTION PERMANENT EROSION CONTROL MEASURES UNTIL ADEQUATE RE-VEGETATION AND STABILIZATION ARE ACHIEVED.
5. REMOVE ALL ON SITE FEATURES AS SHOWN ON THE PLAN AND LEGALLY DISPOSE OFF SITE.
6. PROTECT EXISTING SITE FEATURES TO REMAIN OUTSIDE CONSTRUCTION LIMITS. REPAIR ANY DAMAGE TO THE SATISFACTION OF THE OWNER AT NO ADDITIONAL COST.
7. USE ANY MEANS NECESSARY AND ACCEPTABLE TO THE JURISDICTION TO CONTROL DUST AT THE SITE. PROVIDE STREET CLEANING WHEN NECESSARY OR AS DIRECTED.
8. SILT FENCE SHOWN OFF OF LIMITS OF DISTURBANCE FOR CLARITY PURPOSES ONLY. CONTRACTOR TO ENSURE SILT FENCE IS PLACED AT LIMITS OF DISTURBANCE. ANY DISCREPANCIES SHOULD BE BROUGHT TO THE ENGINEER PRIOR TO PLACEMENT OF ANY EROSION CONTROL MEASURES.
9. TEMPORARY 6' CHAINLINK CONSTRUCTION FENCING SHOWN OFF OF LIMITS OF DISTURBANCE FOR CLARITY PURPOSES ONLY. FENCE TO REMAIN IN PLACE FOR DURATION OF CONSTRUCTION.



FORTY-EIGHT (48) HOURS BEFORE DIGGING IS TO COMMENCE, THE CONTRACTORS SHALL NOTIFY THE FOLLOWING AGENCIES: OHIO UTILITIES PROTECTION SERVICE AT 811 OR 800-362-2764 AND ALL OTHER AGENCIES WHICH MIGHT HAVE UNDERGROUND UTILITIES INVOLVING THIS PROJECT AND ARE NONMEMBERS OF STATE UTILITIES PROTECTION SERVICE



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**CHRIST COMMUNITY
CHAPEL**

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Revisions / Submissions

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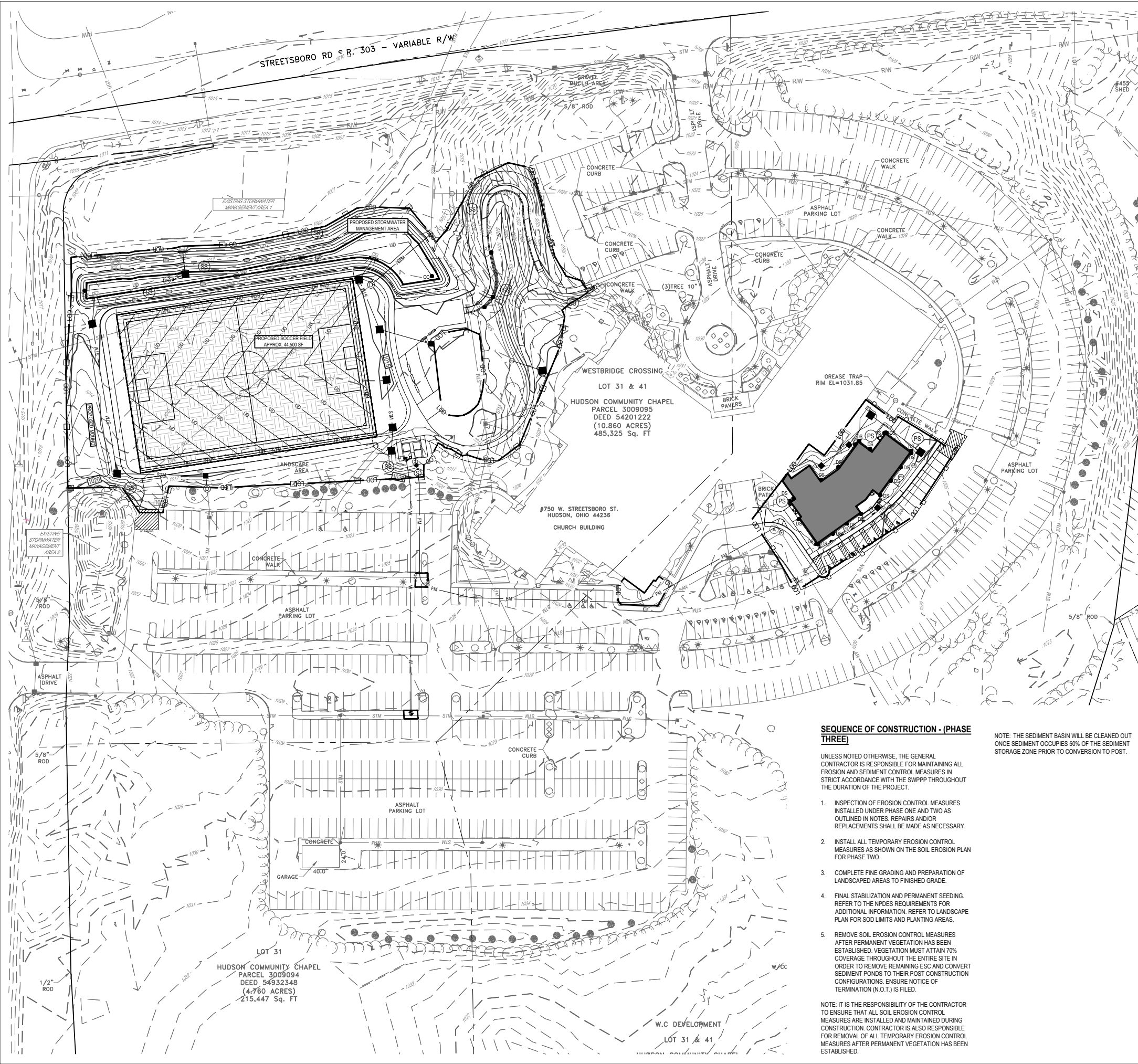
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SWPPP PHASE 2

C6.4

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SEQUENCE OF CONSTRUCTION - (PHASE THREE)

UNLESS NOTED OTHERWISE, THE GENERAL CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ALL EROSION AND SEDIMENT CONTROL MEASURES IN STRICT ACCORDANCE WITH THE SWPPP THROUGHOUT THE DURATION OF THE PROJECT.

- INSPECTION OF EROSION CONTROL MEASURES INSTALLED UNDER PHASE ONE AND TWO AS OUTLINED IN NOTES. REPAIRS AND/OR REPLACEMENTS SHALL BE MADE AS NECESSARY.
- INSTALL ALL TEMPORARY EROSION CONTROL MEASURES AS SHOWN ON THE SOIL EROSION PLAN FOR PHASE TWO.
- COMPLETE FINE GRADING AND PREPARATION OF LANDSCAPED AREAS TO FINISHED GRADE.
- FINAL STABILIZATION AND PERMANENT SEEDING. REFER TO THE NPDES REQUIREMENTS FOR ADDITIONAL INFORMATION. REFER TO LANDSCAPE PLAN FOR SOD LIMITS AND PLANTING AREAS.
- REMOVE SOIL EROSION CONTROL MEASURES AFTER PERMANENT VEGETATION HAS BEEN ESTABLISHED. VEGETATION MUST ATTAIN 70% COVERAGE THROUGHOUT THE ENTIRE SITE IN ORDER TO REMOVE REMAINING ESC AND CONVERT SEDIMENT PONDS TO THEIR POST CONSTRUCTION CONFIGURATIONS. ENSURE NOTICE OF TERMINATION (N.O.T.) IS FILED.

NOTE: IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE THAT ALL SOIL EROSION CONTROL MEASURES ARE INSTALLED AND MAINTAINED DURING CONSTRUCTION. CONTRACTOR IS ALSO RESPONSIBLE FOR REMOVAL OF ALL TEMPORARY EROSION CONTROL MEASURES AFTER PERMANENT VEGETATION HAS BEEN ESTABLISHED.

NOTE: THE SEDIMENT BASIN WILL BE CLEANED OUT ONCE SEDIMENT OCCUPIES 50% OF THE SEDIMENT STORAGE ZONE PRIOR TO CONVERSION TO POST.

SWPPP LEGEND

EXISTING

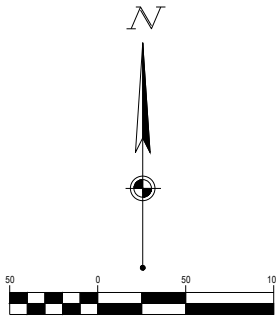
REFER TO ALTA SURVEY BY DIEBEL FOR EXISTING FEATURES LEGEND

PROPOSED

- MAJOR CONTOUR
- MINOR CONTOUR
- PAVEMENT/WALK
- STORM SEWER
- SILT FENCE
- COMPOST SOCK
- GRADING/SEEDING LIMITS
- LIMIT OF DISTURBANCE
- STORM MANHOLE
- CATCH BASIN
- CURB INLET
- PERMANENT SEEDING

GENERAL NOTES

- ADDITIONAL EROSION AND SEDIMENT CONTROLS MAY BE REQUIRED AS IDENTIFIED WITH OEPA AND LOCAL JURISDICTION INSPECTOR.
- CONTRACTOR SHALL REVIEW THE COMPLETE DRAWING SET AND NOTIFY THE DESIGN PROFESSIONAL IN WRITING PRIOR TO CONSTRUCTION, IF ANY DISCREPANCIES ARE FOUND WITHIN THE DRAWINGS OR WITH ACTUAL FIELD CONDITIONS.
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- TEMPORARY 6' CHAINLINK CONSTRUCTION FENCING SHOWN OFF OF LIMITS OF DISTURBANCE FOR CLARITY PURPOSES ONLY. FENCE TO REMAIN IN PLACE FOR DURATION OF CONSTRUCTION.



SCALE INTENDED FOR PLAN SHEET SIZE 24" x 36"

FORTY-EIGHT (48) HOURS BEFORE DIGGING IS TO COMMENCE, THE CONTRACTORS SHALL NOTIFY THE FOLLOWING AGENCIES: OHIO UTILITIES PROTECTION SERVICE AT 811 OR 800-362-2764 AND ALL OTHER AGENCIES WHICH MIGHT HAVE UNDERGROUND UTILITIES INVOLVING THIS PROJECT AND ARE NONMEMBERS OF STATE UTILITIES PROTECTION SERVICE



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Revisions / Submissions

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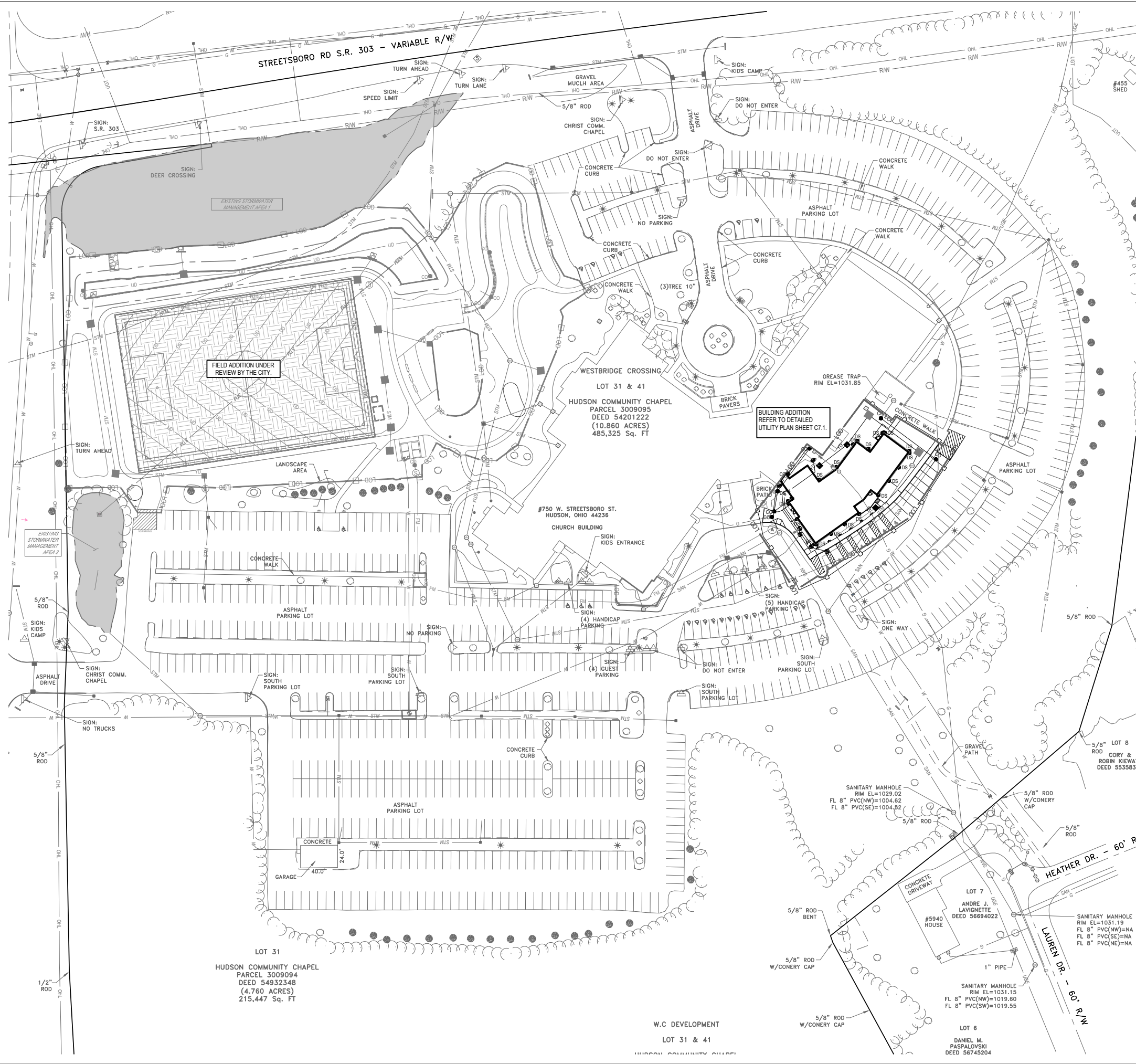
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SWPPP PHASE 3

C6.5

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UTILITY LEGEND

EXISTING

REFER TO ALTA SURVEY BY DIEBEL FOR EXISTING FEATURES LEGEND

PROPOSED

STM	PAVEMENT/WALK
SAN	STORM SEWER LINE
W	SANITARY SEWER LINE
FM	DOMESTIC WATER SERVICE LINE
■	FORCEMAIN
⊙	CATCH BASIN
⊙	STORM SEWER
⊙	SANITARY SEWER
⊙	CLEANOUT
⊙	YARD DRAIN
⊙	WATER VALVE



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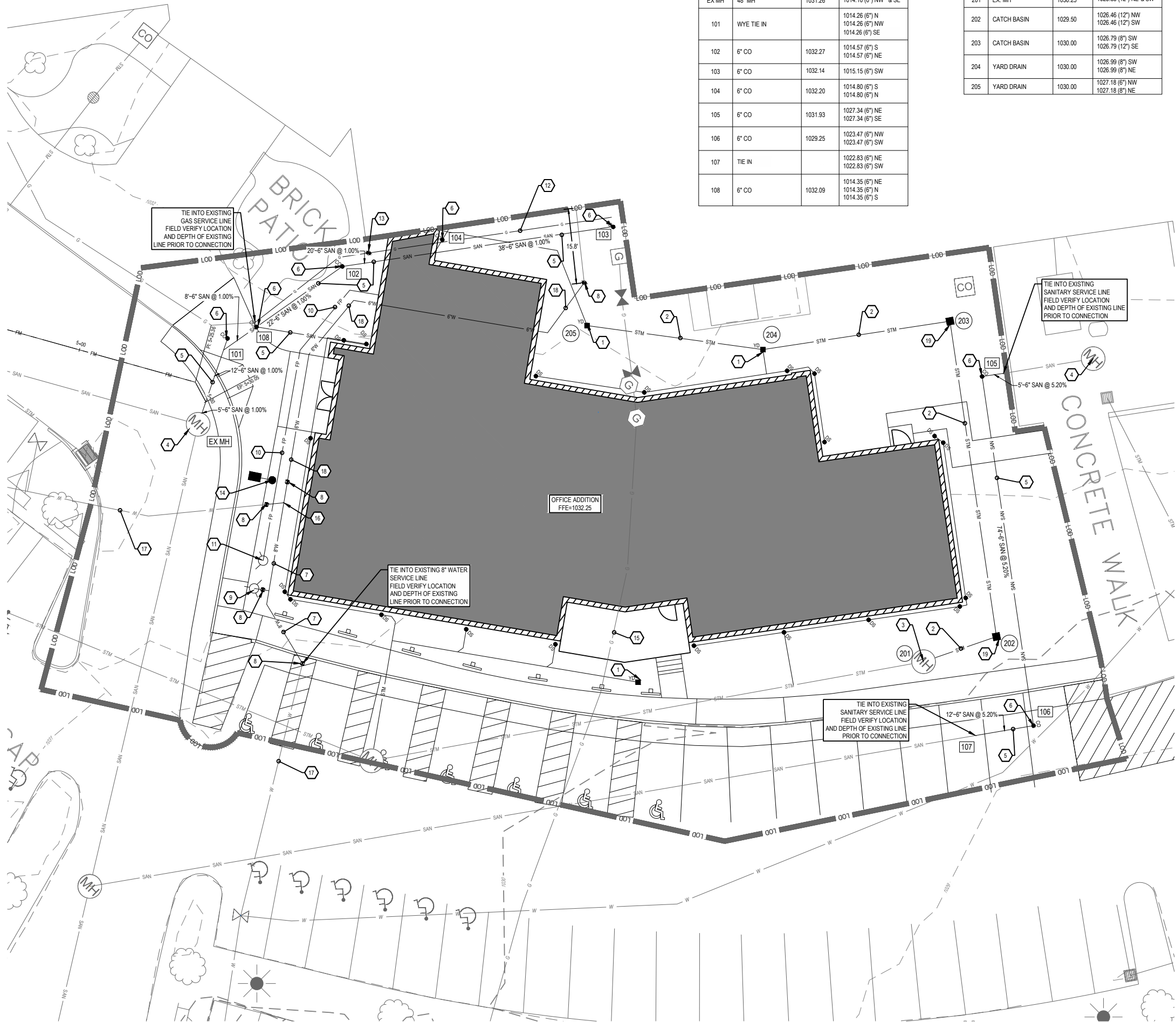
OVERALL UTILITY PLAN

C7.0

FORTY-EIGHT (48) HOURS BEFORE DIGGING IS TO COMMENCE, THE CONTRACTORS SHALL NOTIFY THE FOLLOWING AGENCIES: OHIO UTILITIES PROTECTION SERVICE AT 811 OR 800-362-2764 AND ALL OTHER AGENCIES WHICH MIGHT HAVE UNDERGROUND UTILITIES INVOLVING THIS PROJECT AND ARE NONMEMBERS OF STATE UTILITIES PROTECTION SERVICE



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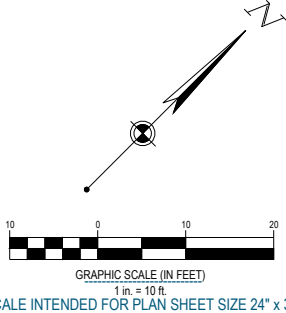


SANITARY SEWER STRUCTURE SCHEDULE			
NO.	STRUCTURE	RIM	INVERT
EX MH	48" MH	1031.26	1014.10 (6") NW & SE
101	WYE TIE IN		1014.26 (6") N 1014.26 (6") NW 1014.26 (6") SE
102	6" CO	1032.27	1014.57 (6") S 1014.57 (6") NE
103	6" CO	1032.14	1015.15 (6") SW
104	6" CO	1032.20	1014.80 (6") S 1014.80 (6") N
105	6" CO	1031.93	1027.34 (6") NE 1027.34 (6") SE
106	6" CO	1029.25	1023.47 (6") NW 1023.47 (6") SW
107	TIE IN		1022.83 (6") NE 1022.83 (6") SW
108	6" CO	1032.09	1014.35 (6") NE 1014.35 (6") N 1014.35 (6") S

STORM SEWER STRUCTURE SCHEDULE			
NO.	STRUCTURE	RIM	INVERT
201	EX. MH	1030.25	1025.35 (12") NE & SW
202	CATCH BASIN	1029.50	1026.46 (12") NW 1026.46 (12") SW
203	CATCH BASIN	1030.00	1026.79 (8") SW 1026.79 (12") SE
204	YARD DRAIN	1030.00	1026.99 (8") SW 1026.99 (8") NE
205	YARD DRAIN	1030.00	1027.18 (6") NW 1027.18 (8") NE

UTILITY LEGEND	
EXISTING	
REFER TO FOR EXISTING FEATURES LEGEND	
PROPOSED	
	BUILDING
	CONCRETE CURB
	PAVEMENT/WALK
	STORM SEWER LINE
	SANITARY SEWER LINE
	DOMESTIC WATER SERVICE LINE
	GAS SERVICE LINE
	OVERHEAD ELECTRIC LINE
	UNDERGROUND ELECTRIC LINE
	FORCEMAIN
	UNDERGROUND TELEPHONE LINE
	OVERHEAD TELEPHONE LINE
	CATCH BASIN
	STORM SEWER
	SANITARY SEWER
	CURB INLET
	CLEANOUT
	YARD DRAIN
	DOWNSPOUT
	ELECTRICAL TRANSFORMER PAD
	FIRE HYDRANT
	WATER VALVE

- CODED NOTES:**
1. PROPOSED YARD DRAIN INLET. REFER TO DETAIL ON SHEET C8.6.
 2. PROPOSED STORM SEWER. REFER TO GRADING PLAN C5.1.
 3. EXISTING STORM MANHOLE. REFER TO GRADING PLAN C5.1.
 4. EXISTING SANITARY MANHOLE TO REMAIN.
 5. PROPOSED SANITARY SEWER LINE.
 6. PROPOSED SANITARY CLEANOUT. REFER TO DETAIL ON SHEET C8.9.
 7. PROPOSED 8" WATER SERVICE LINE. REFER TO DETAILS C8.1-C8.3.
 8. PROPOSED WATER VALVE. REFER TO DETAILS C8.1-C8.3.
 9. RELOCATED FIRE HYDRANT ASSEMBLY.
 10. PROPOSED 4" FDC SERVICE LINE. REFER TO DETAILS C8.1-C8.3.
 11. PROPOSED FDC CONNECTION. REFER TO DETAILS C8.1-C8.3.
 12. PROPOSED RELOCATED GAS LINE SERVICE.
 13. PROPOSED GAS VALVE.
 14. RELOCATED LIGHT POLE.
 15. EXISTING 2" GAS LINE SERVICE TO REMAIN. CONTRACTOR TO ENCASE PRIOR TO CONSTRUCTION AND PROTECT THROUGHOUT CONSTRUCTION. CONTRACTOR TO COORDINATE WITH GAS COMPANY TO POTHOLE ANY CROSSINGS PRIOR TO CONSTRUCTION. ANY INTERRUPTIONS TO SERVICE SHOULD BE COORDINATED.
 16. PROPOSED 8"x8"x6" TEE. REFER TO DETAILS C8.1-C8.3.
 17. EXISTING 8" WATER MAIN TO REMAIN.
 18. PROPOSED 6" WATER SERVICE LINE. REFER TO DETAILS C8.1-C8.3.
 19. PROPOSED CATCH BASIN. REFER TO DETAIL SHEET C8.6.



FORTY-EIGHT (48) HOURS BEFORE DIGGING IS TO COMMENCE, THE CONTRACTORS SHALL NOTIFY THE FOLLOWING AGENCIES: OHIO UTILITIES PROTECTION SERVICE AT 811 OR 800-362-2764 AND ALL OTHER AGENCIES WHICH MIGHT HAVE UNDERGROUND UTILITIES INVOLVING THIS PROJECT AND ARE NONMEMBERS OF STATE UTILITIES PROTECTION SERVICE



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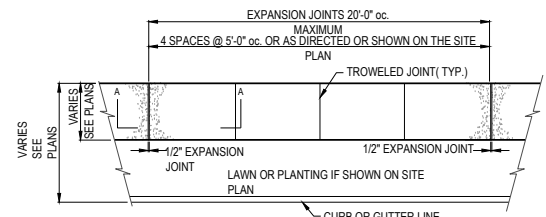
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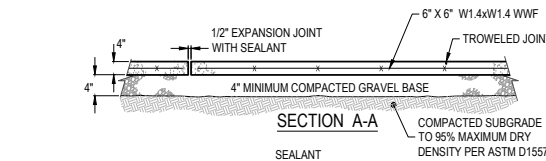
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OFFICE UTILITY PLAN

C7.1

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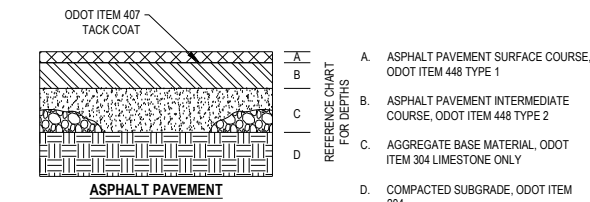


PLAN VIEW



CONCRETE SIDEWALK

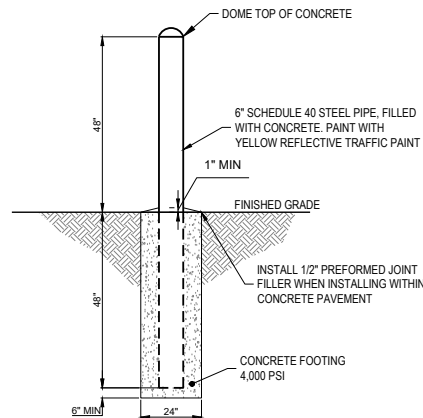
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PAVEMENT LAYER DEPTHS				
	ASPHALT			
	A	B	C	
STANDARD DUTY	1.5"	3.5"	6"	

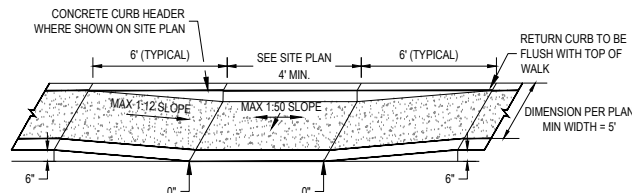
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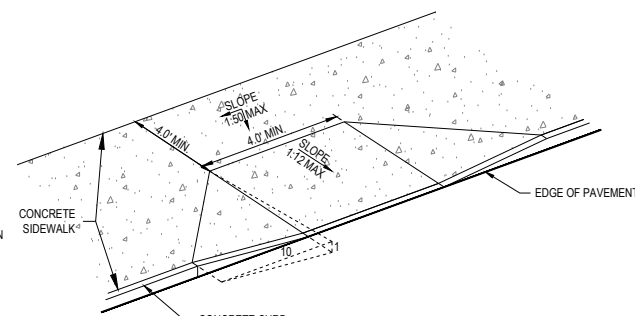
BOLLARD

NTS



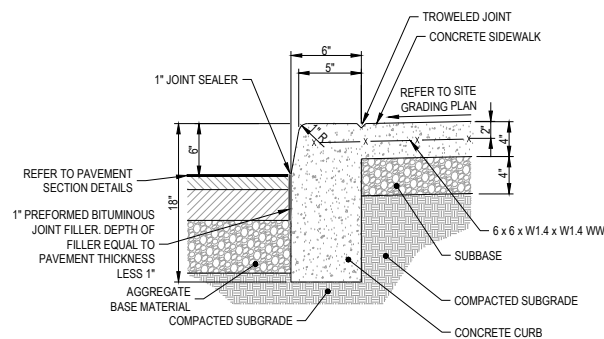
ACCESSIBLE CURB RAMP

NTS



ACCESSIBLE CURB RAMP

NTS

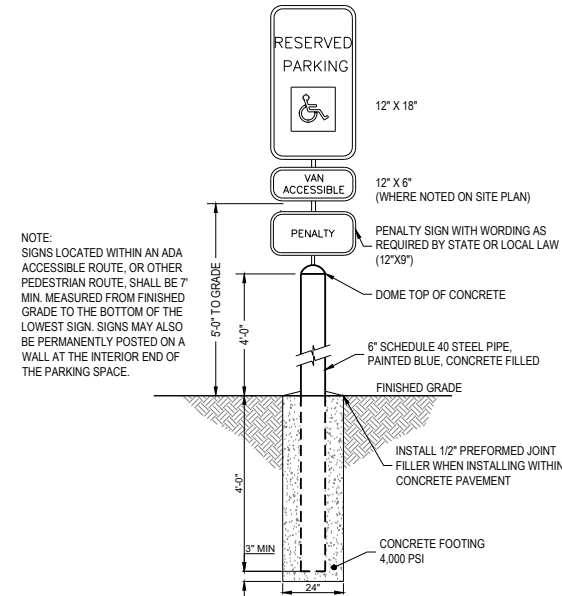


NOTES:

- ALL CONCRETE CURBS AND SIDEWALK TO BE 4,000 P.S.I. CONCRETE AT 28 DAYS.
- TRANSVERSE EXPANSION JOINTS, 1/2" WIDE, SHALL BE INSTALLED IN THE CURB 20'-0" APART MAXIMUM. SPACING SHALL MATCH SIDEWALK.
- EXPANSION JOINTS SHALL BE FILLED WITH 1/2" PREFORMED JOINT FILLER, RECESSED 1/4" FROM TOP AND FACE OF CURB.
- MAXIMUM HEIGHT OF CURB TO PAVING IS 6".

CONCRETE CURB W/ SIDEWALK

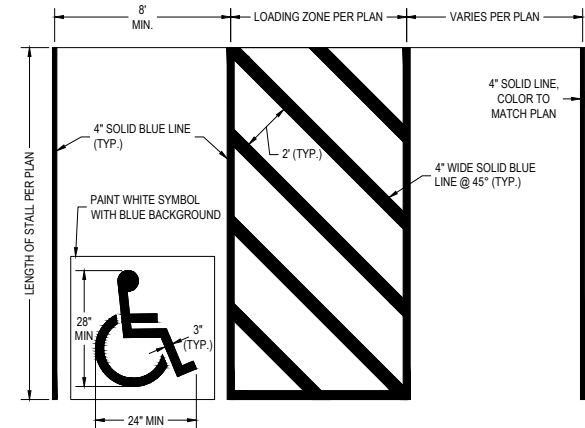
NTS



NOTE: SIGNS LOCATED WITHIN AN ADA ACCESSIBLE ROUTE, OR OTHER PEDESTRIAN ROUTE, SHALL BE 7' MIN. MEASURED FROM FINISHED GRADE TO THE BOTTOM OF THE LOWEST SIGN. SIGNS MAY ALSO BE PERMANENTLY POSTED ON A WALL AT THE INTERIOR END OF THE PARKING SPACE.

ACCESSIBLE PARKING SIGN IN BOLLARD

NTS



ACCESSIBLE PARKING SPACE STRIPING

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Drawing Title:
**CONSTRUCTION
DETAILS**

C8.0

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CITY OF HUDSON WATERWORK NOTES & SECTION 2. WATER DISTRIBUTION REQUIREMENTS

EXHIBIT B
WATERWORK NOTES

CITY OF HUDSON WATER SERVICE AREA: NOTE THESE WATER WORK NOTES APPLY TO AREAS OF HUDSON THAT ARE TO BE SERVED WITH CITY OF HUDSON WATER.

- ALL WATER MAINS AND APPURTENANCES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CITY OF HUDSON "ENGINEERING STANDARDS FOR INFRASTRUCTURE CONSTRUCTION", LATEST EDITION.
- CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING ANY AND ALL AREAS ALONG THE ROUTE OF THE WATER MAIN. THIS WILL INCLUDE LAWNS, DRIVES, DITCHES, CULVERTS, LANDSCAPING, ETC, AND ANY OTHER AREAS DISTURBED DURING THE CONSTRUCTION PROCESS.
- ALL TESTING SHALL BE IN ACCORDANCE WITH THE CITY OF HUDSON "ENGINEERING STANDARDS FOR INFRASTRUCTURE CONSTRUCTION" AND BE COORDINATED WITH THE CITY OF HUDSON. AWWA C-600 PRESSURE TESTING AND C-651 DISINFECTION BY CHLORINATION OF THE WATER MAIN WILL BE REQUIRED.
- ALL PROPOSED TRENCHES LOCATED UNDER EXISTING OR PROPOSED PAVEMENT SHALL BE FILLED WITH LOW STRENGTH MORTAR. THE METHOD OF BACKFILLING AS DIRECTED BY THE ENGINEER, SHALL CONFORM TO ODOT 613 TYPE 1. SLAG OR FLY ASH IS NOT PERMITTED IN MIX. PAVEMENT INCLUDES, BUT IS NOT LIMITED TO, ROADWAY SURFACES, SIDEWALKS, BIKE WAYS, DRIVEWAYS, SHOULDERS, ETC. THE LIMITS OF THE LOW STRENGTH MORTAR SHALL INCLUDE 45° ANGLE OF REPOSE FROM ALL EDGES OF PAVEMENT.
- FIELD STAKING AND RECORD DRAWINGS SHALL BE PROVIDED TO THE CITY BY THE CONTRACTOR, AS SUPERVISED AND STAMPED BY A LICENSED PROFESSIONAL SURVEYOR. RECORD DRAWINGS (AS-BUILTS) IN BOTH REPRODUCIBLE AND DIGITAL FORMAT COMPATIBLE WITH THE CITY OF HUDSON STANDARDS TO BE SUBMITTED TO AND APPROVED BY THE CITY OF HUDSON PRIOR TO UTILITY SERVICE CONNECTIONS BEING MADE.
- A 4' MINIMUM HORIZONTAL CLEARANCE AND A 12" MINIMUM VERTICAL CLEARANCE SHALL BE MAINTAINED FROM THE EDGE OF THE WATER MAIN PIPE TO THE EDGE OF THE STORM SEWER PIPE.
- A 10' MINIMUM HORIZONTAL CLEARANCE AND AN 18" MINIMUM VERTICAL CLEARANCE SHALL BE MAINTAINED FROM THE EDGE OF THE WATER MAIN PIPE TO THE EDGE OF ALL SANITARY SEWERS AND/OR FORCE MAIN PIPE.
- ALL VALVES, FITTINGS, BENDS, TEES, ETC. SHALL HAVE MEGALUG JOINT RESTRAINTS BY EBBA IRON, INC.
- ALL WATER MAINS WITHIN LOW STRENGTH MORTAR BACKFILL SHALL BE WRAPPED IN POLYETHYLENE AS PER AWWA C-105. OTHER AREAS TO BE WRAPPED IN POLYETHYLENE SHALL BE AS SHOWN ON THE DRAWINGS, AS DETERMINED FROM DIPRA REPORT OR AS REQUIRED BY THE CITY.
- WHERE WATER MAINS CROSS SEWER TRENCHES, THE TRENCH IS TO BE BACKFILLED WITH ODOT 304 CRUSHED LIMESTONE.
- TAPPING SLEEVES SHALL BE ROMAC TYPE, WRAP AROUND STAINLESS STEEL WITH # 316 STAINLESS STEEL BOLTS AND NUTS.
- MANUFACTURER'S AFFIDAVIT: THE MANUFACTURER SHALL FURNISH AN AFFIDAVIT INDICATING THAT ALL PIPE, FITTINGS, VALVES, FIRE HYDRANTS, AND APPURTENANCES HAVE BEEN MANUFACTURED AND TESTED IN ACCORDANCE WITH THE REQUIREMENTS OF THE APPLICABLE REFERENCED STANDARDS. A COPY OF EACH AFFIDAVIT, INDICATING THE PROJECT ON WHICH THE MATERIAL IS TO BE USED SHALL BE FORWARDED TO THE CITY OF HUDSON PRIOR TO THE PRECONSTRUCTION MEETING BEING SCHEDULED.
- BOOSTER PUMPS ARE NOT PERMITTED ON SERVICE CONNECTIONS. THE CITY MAY GRANT SPECIAL PERMISSION FOR BUILDINGS FOUR STORIES AND HIGHER WITH A FIRE SUPPRESSION SYSTEM.
- PROPOSED FACILITIES SHALL BE DESIGNED TO MAINTAIN A MINIMUM OF 35 PSI PRESSURE DELIVERED TO THE CURB STOP DURING NORMAL OPERATING CONDITIONS.
- ALL WATER MAINS GREATER THAN 12 INCH DIAMETER SHALL BE LAID TO GRADE WITH HIGH POINTS AND LOW POINTS HAVING ADEQUATE BLOW-OFFS VIA USE OF HYDRANTS.
- FOR ALL NON-RESIDENTIAL WATER SERVICE, A BACKFLOW PREVENTION DEVICE SHALL BE INSTALLED PER CITY OF HUDSON AND OPA STANDARDS AND REQUIREMENTS. FOR RESIDENTIAL WATER SERVICE A BACKFLOW PREVENTION DEVICE MAY BE REQUIRED FOR SWIMMING POOLS, IRRIGATION SYSTEMS, ETC. CONTACT THE CITY SERVICE/WATER DISTRIBUTION DEPARTMENT FOR THE REQUIREMENTS AND STANDARDS FOR BACKFLOW PREVENTION, THERMAL EXPANSION CONTROL, ETC.
- ALL WATER METER SETTINGS MUST BE APPROVED BY THE CITY OF HUDSON. METERS SHALL BE MAGNETIC DRIVE, WITH A SCANCODE REMOTE READ, MUST READ IN CUBIC FEET, SET WITH VALVES BEFORE AND AFTER THE METER. IT IS THE RESPONSIBILITY OF THE OWNER/CONTRACTOR TO PROVIDE AND RUN A REMOTE WATER METER WIRE FROM THE PROPOSED WATER METER LOCATION TO THE VICINITY OF THE PROPOSED ELECTRIC METER LOCATION. CONTACT THE CITY SERVICE/WATER DISTRIBUTION DEPARTMENT FOR THE COMPLETE STANDARDS AND REQUIREMENTS FOR WATER METERS, PRESSURE REGULATORS, ETC.
- FOR NEW WATER MAIN CONSTRUCTION THE DRAWINGS SHALL HAVE BEEN REVIEWED BY THE OHIO EPA AND WRITTEN APPROVAL RECEIVED PRIOR TO THE START OF CONSTRUCTION.
- ALL WATER SHUT DOWNS SHALL BE PLANNED FOR MONDAY THROUGH WEDNESDAY ONLY.

SECTION 2 - WATER DISTRIBUTION

GENERAL REQUIREMENTS

THE DESIGN OF WATER FACILITIES SHALL COMPLY WITH THE "RECOMMENDED STANDARDS FOR WATER WORKS" (10 STATES STANDARDS), LATEST EDITION.

ALL MATERIALS SHALL BE MANUFACTURED IN THE UNITED STATES OF AMERICA WHEREVER AVAILABLE.

CONCRETE WORK SHALL BE AS SPECIFIED IN ODOT ITEM 499.

ALL WORK SHALL CONFORM WITH THE GENERAL REQUIREMENTS IN SECTION 1 FOR SEEDING, RESTORATION, LANDSCAPING, ETC.

I. - MATERIALS

2.1 - PIPE AND FITTINGS

A. REQUIREMENTS - PIPE, FITTINGS AND APPURTENANCES SHALL CONFORM TO THE LATEST EDITION OF THE REFERENCED STANDARDS.

THE MANUFACTURER SHALL FURNISH AN AFFIDAVIT INDICATING THAT ALL PIPE, FITTINGS AND APPURTENANCES HAVE BEEN MANUFACTURED AND TESTED IN ACCORDANCE WITH THE REQUIREMENTS OF THE APPLICABLE REFERENCED STANDARDS. A COPY OF THE AFFIDAVIT, INDICATING THE PROJECT ON WHICH THE MATERIAL IS TO BE USED, SHALL BE FORWARDED TO THE CITY PRIOR TO CONSTRUCTION.

ALL PIPE, FITTINGS AND APPURTENANCES SHALL BE APPROPRIATELY MARKED FOR PURPOSES OF IDENTIFICATION. THE MATERIALS AND METHODS OF MANUFACTURE, AND THE COMPLETED PIPES, FITTINGS AND APPURTENANCES SHALL BE SUBJECT TO INSPECTION AND REJECTION AT ALL TIMES. THE CITY SHALL HAVE THE RIGHT TO MAKE INSPECTIONS.

B. DUCTILE IRON PIPE AND FITTINGS - DUCTILE IRON PIPE SHALL BE DESIGNED IN ACCORDANCE WITH AWWA C150 AND MANUFACTURED IN ACCORDANCE WITH AWWA C151 AND SHALL BE THICKNESS CLASS 52. IF CROSSING, OR WITHIN, RAILROAD RIGHT-OF-WAYS, THICKNESS CLASS 56 SHALL BE USED. THE PIPE SHALL BE OF THE PUSH-ON JOINT OR MECHANICAL JOINT TYPE. WITH JOINTS WITHIN THE LENGTHS NOTED ON THE DRAWINGS TO BE RESTRAINED TYPE JOINTS. FURNISH CITY WITH CALCULATIONS TO SUPPORT LENGTHS OF RESTRAINED JOINT PIPE TO BE USED AT ALL FITTINGS AND VALVES. RESTRAINED JOINT LENGTHS SHALL MEET DUCTILE IRON PIPE RESEARCH ASSOCIATION (DIPRA) MINIMUM LENGTHS RECOMMENDED. ALL PIPE SHALL BE COATED WITH A BITUMINOUS MATERIAL ON THE EXTERIOR AND SHALL BE CEMENT MORTAR LINED BY THE FACTORY IN ACCORDANCE WITH AWWA C104. PIPE SHALL BE FURNISHED IN MINIMUM 18-FOOT LENGTHS UNLESS OTHERWISE SPECIFIED.

FITTINGS SHALL BE OF DUCTILE IRON, SHALL CONFORM TO AWWA C153, AND SHALL BE COATED AND LINED AND HAVE JOINTS AS SPECIFIED FOR THE PIPE.

MECHANICAL JOINTS AND PUSH-ON JOINTS SHALL BE IN ACCORDANCE WITH AWWA C111, INCORPORATING RUBBER GASKETS.

RESTRAINED PUSH-ON JOINTS SHALL BE COMPLETELY BOLTLESS AND SHALL BE CLOW-MCWANE SUPER-LOK, AMERICAN FLEX-RING, U.S. PIPE TR FLEX, OR AS APPROVED BY THE CITY. RESTRAINED MECHANICAL JOINTS SHALL BE OF THE PIPE MANUFACTURER'S STANDARD DESIGN, OR SHALL BE MEGALUG AS MANUFACTURED BY EBAA IRON, INC., OR EQUAL. OF DUCTILE IRON AND WITH A WORKING PRESSURE OF AT LEAST 250-PSI AND A MINIMUM SAFETY FACTOR OF 2.1. ALL FITTINGS AND VALVES SHALL HAVE RESTRAINED MECHANICAL JOINTS.

WHENEVER IT IS NECESSARY TO CUT THE PIPE AT FITTINGS, VALVES, SPECIALS OR ELSEWHERE, THE REMAINING PORTIONS MAY BE USED WHERE POSSIBLE TO MINIMIZE THE NUMBER OF SCRAP PIECES WHEN THE PROJECT IS COMPLETE; HOWEVER, PIECES LESS THAN 5 FEET IN LENGTH SHALL NOT BE USED. CUT PIECES OF PIPE SHALL BE BEVELED TO MANUFACTURERS SPECIFICATIONS.

C. DIRECTIONAL DRILLED WATER MAINS, POLYETHYLENE (HDPE) PIPE AND DUCTILE IRON FITTINGS - POLYETHYLENE (HDPE) PIPE SHALL COMPLY WITH AWWA C906, PE3408, DR11, PC160; NSF APPROVED FOR POTABLE WATER. DUCTILE IRON FITTINGS SHALL BE AWWA C153 WITH EXTERIOR COATING OF BITUMINOUS MATERIAL. INTERIOR LINING PER AWWA C104 CEMENT MORTAR WITH SEAL COAT; AND THE USE OF STAINLESS STEEL RING STIFFENERS AT ALL FITTINGS SHALL BE EMPLOYED. BUTT FUSION WELD JOINTS BETWEEN PLAIN ENDS OF POLYETHYLENE PIPE, MECHANICAL FOR TRANSITION BETWEEN PIPE, VALVES, ETC. OF DIFFERING MATERIALS AS APPROVED BY CITY.

INSTALL 8-GAUGE TRACE WIRE CONTINUOUS OVER TOP OF POLYETHYLENE PIPE. PERMANENTLY AFFIX THIS TRACE WIRE TO THE HDPE PIPE AS IT IS BEING INSTALLED. ALLOW SUFFICIENT SLACK ON BOTH ENDS OF HDPE PIPE TO EXTEND TRACE WIRE INTO A VALVE BOX ON EACH END OF THE DIRECTIONALLY DRILLED WATER MAIN. BRING TRACE WIRE UP INTO AND LOOP AT THE TOP OF EACH VALVE BOX. SPLICING OF WIRE SHALL BE DONE USING SPLICE CAPS WITH WATERPROOF SEALS. TWISTING OF WIRE TOGETHER IS NOT PERMITTED. TEST WIRE FOR CONTINUITY BEFORE AND AFTER BACKFILLING. BROKEN WIRE TO BE REPLACED.

CONTRACTOR SHALL VERIFY THAT AREA FOR TRENCHLESS INSTALLATION IS READY TO RECEIVE WORK, AND EXCAVATIONS, DIMENSIONS, AND ELEVATIONS ARE AS INDICATED ON DRAWINGS. CONTRACTOR ACCEPTS FULL RESPONSIBILITY FOR CONTRACTOR'S CONCLUSIONS RELATIVE TO THE NATURE AND PROBABLE DIFFICULTIES OF THE WORK DUE TO UNDERGROUND STRUCTURES AND SOIL CONDITIONS. BEGINNING OF INSTALLATION MEANS ACCEPTANCE OF EXISTING CONDITIONS.

MAKE BUTT FUSION JOINTS IN ACCORDANCE WITH PIPE MANUFACTURER'S AND FUSION MACHINE MANUFACTURER'S INSTRUCTIONS. THE WALL THICKNESS OF THE ADJOINING PIPES SHALL HAVE THE SAME DR AT THE POINT OF FUSION.

DIRECTIONAL DRILLING SHALL BE ACCOMPLISHED VIA A DRILLING RIG MOUNTED ON A VARIABLE BUT SHALLOW SLOPED BED WHICH PUSHES THE DRILL HEAD THROUGH THE SOIL ALONG THE ROUTE OF THE PROPOSED WATER MAIN. STIFF ROD SECTIONS ARE ADDED TO EXTEND THE HOLE. THE ROUTE/DEPTH IS CONTROLLED BY LOCATING THE DRILL HEAD ELECTRONICALLY AND ROTATING THE DRILL HEAD TO A POSITION THAT FORCES REDIRECTION. THE HOLE IS KEPT FULL WITH BENTONITE TO PREVENT COLLAPSE AND FACILITATE DRAWING THE PIPE BACK THROUGH THE HOLE, CONNECTED TO THE RODS.

INSTALL HDPE PIPE IN THE FOLLOWING MANNER. PROVIDE SUCH MEANS AS NECESSARY TO FACILITATE THE INSTALLATION OF THE PIPE AND APPURTENANCES IN ACCORDANCE WITH LINES, GRADES, AND LOCATIONS AS SHOWN ON THE DRAWINGS. DRILL THE DRILLING RODS AND HEAD AT A DOWNWARD ANGLE TO A MINIMUM DEPTH OF 4 FEET OR AS APPROVED BY THE CITY AND CONTINUE TO DRILL HORIZONTALLY AT THE SPECIFIED DEPTH ALONG THE PROPER ALIGNMENT. WHEN CONNECTING TWO SEPARATE LENGTHS OF PIPE TOGETHER, MAINTAIN MINIMUM BURIAL DEPTH DRILLING IN A HORIZONTAL DIRECTION BEYOND THE POINT AT WHICH THE EXISTING PIPE BEGINS ITS UPWARD ASCENT BEFORE BRINGING THE DRILL HEAD TO THE SURFACE. ATTACH PIPING TO DRILL RODS PER MANUFACTURER'S INSTRUCTIONS AND THEN PULL THE RODS AND PIPE BACK THROUGH THE HOLE CREATED. AFTER PULLING THE PIPE COMPLETELY THROUGH THE CREATED HOLE WITH THE DRILLING UNIT, EXCAVATE THE LOCATION OF THE CONNECTION. BUTT FUSE THE TWO LENGTHS OF PIPE TOGETHER AT THE POINT WHERE BOTH PIPES ARE HORIZONTAL TO THE SURFACE. IF OBSTRUCTIONS ARE ENCOUNTERED, BACK UP DRILLING HEAD AND DEFLECT AROUND OBSTRUCTION. AT NO TIME SHALL A DEFLECTION AROUND AN OBJECT CAUSE THE PIPE TO LEAVE A ROAD RIGHT-OF-WAY OR EASEMENT LIMITS. MAINTAIN A DATA SHEET FOR ALL DIRECTIONALLY DRILLED PIPE. THE DATA SHEETS SHALL AT A MINIMUM CONTAIN NAME OF DRILLER, DATE OF WORK, LOCATION OF WORK, FOOTAGE OF DRILLED PIPE, DEPTH OF BURIAL, SLOPE OF DRILL HEAD, ALL UPDATED AT 5 FOOT INTERVALS AND COMMENTS REGARDING INSTALLATION. PERFORM ALL REQUIRED BACKFILL AS SUBSEQUENTLY SPECIFIED. SURVEY AND RECORD ON THE RECORD DRAWINGS THE WATER MAIN ELEVATION AT INTERVALS OF 200 FEET OR LESS ALONG THE MAIN. DIRECTIONALLY DRILLED PVC PIPE WILL BE ACCEPTABLE ON A CASE-BY-CASE BASIS, AS PERMITTED BY THE CITY.

2.2 - POLYETHYLENE ENCASEMENT

CONTRACTOR AND/OR DEVELOPER IS RESPONSIBLE FOR COORDINATING WITH THE DUCTILE IRON PIPE RESEARCH ASSOCIATION (DIPRA) TO TEST THE PROJECT SITE TO DETERMINE THE CORROSIVENESS OF THE SOIL AND THE NEED FOR POLYETHYLENE ENCASEMENT. REPORT SHALL BE SUBMITTED TO THE CITY FOR DETERMINING THE NEED, IF ANY, TO WRAP THE PIPE.

PIPE, FITTINGS AND APPURTENANCES SHALL BE FIELD WRAPPED WITH A MINIMUM 8-MIL THICK POLYETHYLENE TUBE MEETING THE REQUIREMENTS OF AWWA C105, AS DIRECTED BY THE CITY. INSTALLATION SHALL BE IN ACCORDANCE WITH METHOD A AND THE INSTRUCTIONS OF THE MANUFACTURER. ALL OVERLAPS AND SEAMS SHALL BE COMPLETELY TAPED. ALL RIPS, PUNCTURES AND OTHER DAMAGE TO THE POLYETHYLENE SHALL BE ACCEPTABLY REPAIRED. TAPE SHALL BE 2-INCH WIDE PLASTIC BACKED ADHESIVE TAPE WHICH WILL BOND SECURELY TO BOTH METAL SURFACES AND THE POLYETHYLENE FILM.

2.3 - PIPE INSULATION

PROVIDE MINIMUM 1-INCH CELLULAR GLASS INSULATION WITH AN ALUMINUM JACKET; ADEQUATE TO PREVENT FREEZING AT 0 DEGREES F; SUITABLE FOR BURIAL. INSTALLATION SHALL BE FOAMGLAS BY PITTSBURGH CORNING CORPORATION OR AS APPROVED.

PROVIDE INSULATION IN ANY AREA WHERE THE DEPTH OF COVER, WHETHER HORIZONTAL, AT SLOPES OR VERTICAL, IS LESS THAN OR EQUAL TO 3'-6". INSTALL PIPE INSULATION AND JACKETING PER MANUFACTURER'S RECOMMENDATIONS, AND TO PREVENT ENTRY OF WATER BETWEEN THE PIPE AND INSULATION.

2.4 - PIPELINE MARKERS -N/A 2.5 - STEEL ENCASEMENT PIPE -N/A

2.6 - GATE VALVES

VALVES 12-INCHES IN DIAMETER AND SMALLER SHALL BE GATE VALVES. GATE VALVES SHALL BE IRON-BODY, RESILIENT-SEATED GATE VALVES MEETING THE REQUIREMENTS OF AWWA C-515. VALVES SHALL BE DESIGNED FOR A WORKING WATER PRESSURE OF 200 PSI, SHALL BE OF THE NON-RISING STEM TYPE WITH STANDARD AWWA NUT, AND SHALL OPEN BY TURNING TO THE LEFT (COUNTERCLOCKWISE). STEM SEALS SHALL CONSIST OF AT LEAST TWO O-RINGS. ENDS SHALL BE MECHANICAL JOINT. GATE VALVES SHALL BE AS MANUFACTURED BY AMERICAN-FLOW CONTROL OR MUELLER, AND SHALL MATCH THOSE EXISTING IN THE SYSTEM. THE MANUFACTURER SHALL FURNISH AN AFFIDAVIT INDICATING THAT ALL TESTS AND PROVISIONS OF THE APPLICABLE STANDARD HAVE BEEN MET. EACH GATE VALVE SHALL BE COMPLETE WITH A VALVE BOX AS SUBSEQUENTLY SPECIFIED IN ITEM 2.11. VALVES SHALL BE SET PLUMB WITH THE VALVE BOX ACCURATELY CENTERED OVER THE VALVE. IF REQUIRED, OPERATORS SHALL BE PROVIDED WITH EXTENSION STEMS SUCH THAT THE OPERATING NUT IS LOCATED APPROXIMATELY 4'-0" BELOW GRADE. EXTENSION STEMS SHALL BE CENTERED IN THE VALVE BOXES BY APPROVED STEM GUIDES.

2.7 - TAPPING SLEEVES AND VALVES

A. REQUIREMENTS - WHEN AN EXISTING MAIN INTO WHICH A CONNECTION IS TO BE MADE CANNOT BE SHUT DOWN OR TAKEN OUT OF SERVICE, THE CONNECTION SHALL BE MADE WITH A TAPPING SLEEVE AND VALVE. THE INSTALLATION SHALL BE MADE BY PERSONNEL SKILLED AND EXPERIENCED IN THE MAKING OF PRESSURE TAPS. THE CONTRACTOR SHALL EXERCISE CARE IN THE SELECTION AND ADJUSTMENT OF DRILLING EQUIPMENT AS WELL AS IN THE INSTALLATION, INSPECTION AND CUTTING PROCEDURES. PRIOR TO ORDERING THE TAPPING SLEEVE ASSEMBLY, THE CONTRACTOR SHALL EXPOSE A SECTION OF THE EXISTING MAIN AND VERIFY THE CIRCUMFERENCE OF THE PIPE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSPECTION, PROPER ASSEMBLY, ALIGNMENT AND FITTING OF THE TAPPING SLEEVE AND TAPPING VALVE TO THE MAIN. IN THE EVENT OF ANY MISMATCH OF PURCHASED MATERIALS, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REFIT THEM IN THE FIELD OR TO MAKE THE NECESSARY ARRANGEMENTS WITH THE MANUFACTURER FOR FACTORY REFIT. THE SEVERED SECTION OF WATER MAIN SHALL BE REMOVED THROUGH THE TAPPING VALVE AND GIVEN TO THE ENGINEERING DEPARTMENT AS PROOF OF SATISFACTORY EXECUTION OF THE OPERATION. THE CITY MAY RETAIN THE COUPON FOR SUCH ANALYSIS OR TESTS AS ARE NECESSARY TO EVALUATE THE CONDITION OF THE EXISTING WATER MAIN. OTHER REQUIREMENTS FOR INSTALLATION OF THE TAPPING SLEEVE AND VALVE SHALL BE AS SUBSEQUENTLY SPECIFIED IN ITEM 2.26 - CONNECTIONS TO MAINS.

B. TAPPING SLEEVES - TAPPING SLEEVES AND BOLTS SHALL BE OF STAINLESS STEEL. GASKETS SHALL EXTEND THE ENTIRE INTERIOR LENGTH OF THE SLEEVE TO FORM WATERTIGHT JOINTS WHEN THE SIDE BOLTS ARE TIGHTENED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. BRANCH FLANGE SHALL HAVE A FEMALE FACE TO ACCOMMODATE THE MALE FACE OF THE TAPPING VALVE. TAPPING SLEEVES SHALL BE AS MANUFACTURED BY ROMAC INDUSTRIES, OR EQUAL. TAPPING SLEEVES SHALL BE TESTED TO 200 PSI.

C. TAPPING VALVES - TAPPING VALVES SHALL BE GATE VALVES AS PREVIOUSLY SPECIFIED IN ITEM 2.6 EXCEPT AS MODIFIED BY THE FOLLOWING: THE WATERWAY SHALL ACCOMMODATE FULL SIZE CUTTERS. ONE END SHALL BE FLANGED TO MATCH THE TAPPING SLEEVE OUTLET. THE VALVE OUTLET SHALL BE MECHANICAL JOINT IN COMPLIANCE WITH AWWA C111. EACH TAPPING VALVE SHALL BE COMPLETE WITH A VALVE BOX AS SUBSEQUENTLY SPECIFIED IN ITEM 2.11. VALVES SHALL BE SET PLUMB WITH THE VALVE BOX ACCURATELY CENTERED OVER THE VALVE. IF REQUIRED, OPERATORS SHALL BE PROVIDED WITH EXTENSION STEMS SUCH THAT THE OPERATING NUT IS LOCATED APPROXIMATELY 4'-0" BELOW GRADE. EXTENSION STEMS SHALL BE CENTERED IN THE VALVE BOXES BY APPROVED STEM GUIDES.

2.8 - INSERTION VALVES

INSERTION VALVES SHALL BE USED AS DIRECTED BY THE ENGINEERING DEPARTMENT. INSERTION VALVES SHALL BE AS MANUFACTURED BY ROMAC INDUSTRIES, OR APPROVED EQUAL. THE VALVE INSERT SHALL BE A DUCTILE IRON CASTING COATED WITH SBR RUBBER, COMPOUNDED FOR WATER SERVICE, WITH A DUROMETER OF 55 SHORE A; AND WHICH SEATS ON THE INSIDE DIAMETER OF THE SLEEVE, NECK AND LOWER HALF OF THE WATER MAIN. THE NECK SHALL BE MANUFACTURED TO PRECISION TOLERANCES THAT ASSURE PROPER ALIGNMENT, SUPPORT AND SEATING OF THE VALVE INSERT. THE BOLTS AND NUTS SHALL BE TYPE 304 STAINLESS STEEL, INCLUDING WASHERS. GASKETS SHALL BE MANUFACTURED OF SBR RUBBER, COMPOUNDED FOR POTABLE WATER SERVICE PER ASTM D2000 WITH A DUROMETER OF 70 SHORE A; PROVIDING A POSITIVE 360 DEGREE SEAL. THE ARMORS SHALL BE HEAVY GAUGE, TYPE 304 STAINLESS STEEL, ARMOR PLATES TO BRIDGE THE GAP BETWEEN THE SLEEVE HALVES.

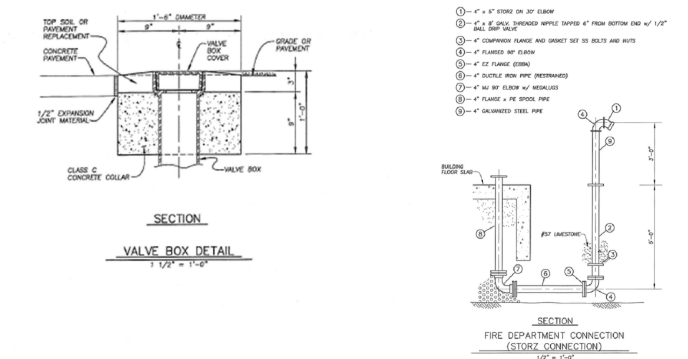
2.9 - BUTTERFLY VALVES -N/A 2.10 - AIR RELEASE VALVES -N/A

2.11 - VALVE BOXES

VALVE BOXES SHALL BE CONSTRUCTED OF CAST IRON, SHALL BE COATED, SHALL BE OF THE THREE PIECE SCREW TYPE, SHALL HAVE A 5-1/4 INCH SHAFT, AND SHALL BE PROVIDED WITH A HEAVY, NEAT-FITTING COVER HAVING THE WORD "WATER" CAST ON THE TOP. THE BASE OF THE VALVE BOX SHALL COVER THE ENTIRE BONNET SECTION OF THE VALVE. THE THREE PIECE VALVE BOX SHALL HAVE SUFFICIENT LENGTH, SUCH THAT WHEN INSTALLED, THE TOP OF THE COVER SHALL BE FLUSH WITH THE SURROUNDING SURFACE WITH EACH SECTION PROPERLY ENGAGED. VALVE BOXES SHALL BE AS MANUFACTURED BY BIBBY ST. CROIX OR AN APPROVED EQUAL.

VALVE BOXES SHALL BE INSTALLED WITH A CLASS OC CONCRETE COLLAR, SEE FIGURE 2.11.1, OR AS DIRECTED BY THE CITY. VALVE BOXES IN CONCRETE PAVEMENTS OR SIDEWALKS SHALL HAVE EXPANSION JOINT MATERIAL AROUND THAT PORTION OF THE BOX IN THE CONCRETE. THE CONCRETE COLLAR SHALL TERMINATE THREE INCHES BELOW FINAL GRADE.

AFTER INSTALLATION, VALVE BOXES SHALL BE CHECKED TO ENSURE THE BOX IS NOT FILLED WITH STONES, DIRT, DEBRIS OR BACKFILL MATERIAL AND THAT THE OPERATING NUT IS CENTERED TO ALLOW OPERATION OF THE VALVE.



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FIG 2.11.1

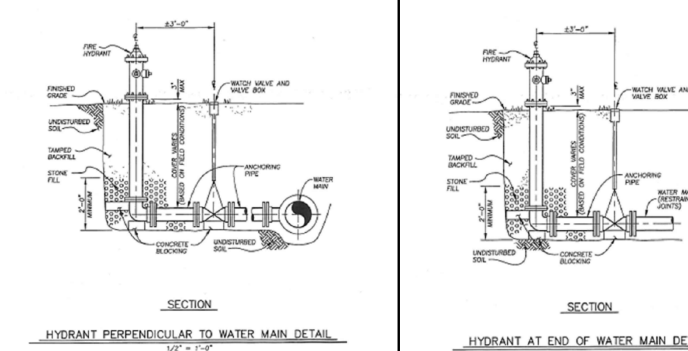
FIG 2.15.6

2.12 - MANHOLES -N/A, 2.13 - BLOWOFF CHAMBER -N/A, 2.14-FLUSHING ASSEMBLIES -N/A

2.15 - FIRE HYDRANTS

A. ASSEMBLIES - FIRE HYDRANTS SHALL BE COMPLETE ASSEMBLIES OF THE TYPES SHOWN IN THE DETAILS ON THE DRAWINGS, EACH INCLUDING FIRE HYDRANT, WATCH VALVE AND VALVE BOX, PIPING (MAINLINE TEE, AND ANCHORING PIPE AND FITTINGS AS REQUIRED), AND APPURTENANCES. (SEE FIGURES 2.15.1, 2.15.2, 2.15.3 AND 2.15.4) INSTALLATION SHALL BE AS SPECIFIED IN ITEM 2.20.

FIGURE 2.15.1



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FIG 2.15.1

FIG 2.15.3

B. FIRE HYDRANTS - FIRE HYDRANTS SHALL BE OF THE COMPRESSION TYPE, OPENING AGAINST AND CLOSING WITH THE WATER PRESSURE IN THE MAIN, AND SHALL MEET THE REQUIREMENTS OF AWWA C502. HYDRANTS SHALL HAVE A 5-1/4 INCH VALVE OPENING, TWO 2-1/2 INCH HOSE NOZZLES NST; AND ONE 4-1/2-INCH MACK NATIONAL THREADS PUMPER NOZZLE, AND SHALL OPEN BY TURNING TO THE LEFT (COUNTERCLOCKWISE). HYDRANTS SHALL BE TRAFFIC MODELS WITH FRANGIBLE BARREL SECTION AND STEM COUPLING, SHALL BE FURNISHED WITH A POSITIVE OPERATING DRAIN VALVE AND INSTALLED WITH THE VALVE OPEN, AND SHALL BE DESIGNED SO THAT WHEN PROPERLY OPERATED, WATER HAMMER WILL BE PREVENTED. HYDRANTS SHALL BE SUITABLE FOR SETTING IN TRENCHES OF THE DEPTHS AND IN THE LOCATIONS SHOWN, AND SHALL BE FURNISHED WITH A 6 INCH MECHANICAL JOINT BASE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING HYDRANT DEPTH OF BURY BASED ON THE LOCATIONS SHOWN. THE BREAKAWAY FLANGE SHALL BE SET AT 3-INCHES ABOVE TO 3-INCHES BELOW FINISHED GRADE. EACH HYDRANT IF NECESSITATED BY FIELD CONDITIONS, SHALL BE PROVIDED WITH AN OFFSET GRADE ADJUSTING FITTING, AS MANUFACTURED BY GRADE-LOK OR EQUAL. DISTANCE FROM ROAD TO HYDRANT SHALL BE 3 TO 8 FEET WITH CURB AND 5 TO 8 FEET WITH DITCH AND HYDRANT APPROACH. HYDRANTS SHALL BE LOCATED AT INTERSECTIONS AND AT 300 TO 350 FOOT INTERVALS, AND BE LOCATED SUCH THAT THE HYDRANT IS ON THE PROPERTY LINE OF ADJACENT PARCELS. HYDRANTS SHALL BE PAINTED COLOR AS DESIGNATED BY THE CITY, AND HYDRANT CAPS SHALL BE REMOVED AND NOZZLES GREASED (LUBRICATED) PRIOR TO ACCEPTANCE.

FIRE HYDRANTS SHALL BE MUELLER CENTURIAN A423 OR AMERICAN-FLOW CONTROL 8B48. THE MANUFACTURER SHALL FURNISH AN AFFIDAVIT INDICATING THAT ALL TESTS AND PROVISIONS OF AWWA C502 HAVE BEEN MET. THE CONTRACTOR SHALL VERIFY THAT THE HYDRANT PUMPER NOZZLE, OPERATING NUT, OUTLET NOZZLE CAP NUTS AND HOSE TRENDS CONFORM TO THOSE IN THE SYSTEM BEFORE THE NEW HYDRANTS ARE SHIPPED. HYDRANT EXTERIOR ABOVE GROUND LEVEL, IN ADDITION TO FINISHING AS REQUIRED BY AWWA C502, SHALL BE FIELD PAINTED WITH TWO COATS OF PAINT AS REQUIRED BY THE CITY AFTER BACKFILLING IS COMPLETE. BACKFILL AROUND BASE OF HYDRANT SHALL BE NO. 57, WASHED GRAVEL. NO LIMESTONE SHALL BE PERMITTED TO COME IN CONTACT WITH THE HYDRANT OR ASSEMBLY.

C. WATCH VALVES AND VALVE BOXES - WATCH VALVES AND VALVE BOXES SHALL BE GATE VALVES AND VALVE BOXES AS PREVIOUSLY SPECIFIED IN ITEMS 2.6 AND 2.11, WITH THE VALVES TO HAVE ENDS SUITABLE FOR RECEIVING THE SPIGOT END OF 6 INCH ANCHORING PIPE.

D. PIPING - PIPING SHALL BE CLASS 52 DUCTILE IRON ANCHOR PIPE AND FITTINGS DESIGNED IN ACCORDANCE WITH AWWA C150 AND MANUFACTURED IN ACCORDANCE WITH AWWA C151. ALL PIPE AND FITTING SHALL BE COATED WITH A BITUMINOUS MATERIAL ON THE OUTSIDE AND SHALL BE CEMENT MORTAR LINED IN ACCORDANCE WITH AWWA C104. MAINLINE TEES SHALL CONFORM TO THE REQUIREMENTS OF AWWA C153. THE BRANCH SHALL BE STANDARD MECHANICAL JOINT FOR CONNECTING TO ANCHORING PIPE AND FITTINGS, AND SHALL BE OF THE MECHANICAL JOINT ANCHORING TYPE WHEN CONNECTING TO A WATCH VALVE.

ANCHORING PIPE SHALL BE OF THE PLAIN END MECHANICAL JOINT TYPE INCORPORATING AN INTEGRAL CAST SHOULDER AND FOLLOWER GLAND, AND SHALL BE AS MANUFACTURED BY CLOW CORPORATION, AMERICAN CAST IRON PIPE COMPANY, UNITED STATES PIPE AND FOUNDRY COMPANY, OR EQUAL.

E. HYDRANT APPROACHES - N/A

F. FIRE DEPARTMENT CONNECTION - PRIVATE FIRE SUPPRESSION SYSTEMS SHALL BE PROVIDED WITH A FIRE DEPARTMENT CONNECTION ASSEMBLY AS SHOWN ON FIGURE 2.15.6. THIS ASSEMBLY SHALL BE TIED INTO THE FIRE SUPPRESSION SYSTEM FROM WITHIN THE BUILDING AND EXTEND TO OUTSIDE THE BUILDING TO THE LOCATION AS DETERMINED BY THE CITY FIRE DEPARTMENT.

FIGURE 2.15.6



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**CHRIST COMMUNITY
CHAPEL**
750 W. STREETSBORO STREET
HUDSON, OH 44236

Revisions / Submissions

ID	Description	Date
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Project Number: 765295

Scale: AS SHOWN

Drawn By: KAN

Checked By: JMS

Date: 06/13/2025

Issue: PERMIT SET

Drawing Title:

WATER DETAILS

C8.1

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CITY OF HUDSON SECTION 2. WATER DISTRIBUTION REQUIREMENTS -CONTINUED

2.16 - BACKFLOW PREVENTION DEVICES, ENCLOSURES AND THERMAL EXPANSION CONTROL

- A. GENERAL - BACKFLOW PREVENTION DEVICES SHALL BE PROVIDED FOR, BUT NOT LIMITED TO, THE FOLLOWING CIRCUMSTANCES: ALL COMMERCIAL AND INDUSTRIAL BUILDINGS, FIRE LINES, IN-GROUND IRRIGATION SYSTEMS, SWIMMING POOLS, PROPERTIES WITH AUXILIARY WATER SUPPLY (WELLS), AND OTHER CIRCUMSTANCES AS DETERMINED BY THE CITY AND/OR CITY ORDINANCE AND ASSOCIATED RULES AND REGULATIONS FOR BACKFLOW PREVENTION, LATEST EDITION. THE CITY SHALL REVIEW AND APPROVE ALL DRAWINGS FOR BACKFLOW PREVENTION, BACKFLOW PREVENTION DEVICES, EXCEPT FOR FIRE SUPPRESSION SYSTEMS AND IN-GROUND IRRIGATION SYSTEMS, SHALL BE A MINIMUM OF A TESTABLE, REDUCED PRESSURE PRINCIPLE ASSEMBLY (ASSE 1013 OR ASSE 1047), FIRE SUPPRESSION SYSTEMS SHALL BE PROVIDED WITH A MINIMUM OF A TESTABLE, DOUBLE CHECK BACKFLOW ASSEMBLY (ASSE 1015 OR ASSE 1048) PROVIDED NO OTHER HAZARD OR CONDITION EXISTS REQUIRING THE USE OF A DIFFERENT BACKFLOW DEVICE. IN-GROUND IRRIGATION SYSTEMS SHALL BE PROVIDED WITH EITHER A TESTABLE REDUCED PRESSURE PRINCIPLE ASSEMBLY (ASSE 1013) OR A TESTABLE, PRESSURE VACUUM BREAKER (ASSE 1020). ALL BACKFLOW PREVENTION DEVICES MUST BE PROTECTED FROM FREEZING IF APPLICABLE IN THE FOLLOWING WAYS: INSTALLED IN A HEATED BUILDING OR APPROVED HEATED ENCLOSURE. ANY BACKFLOW DEVICE THAT IS NOT IN SERVICE DURING FREEZING WEATHER MAY BE PROTECTED BY COMPLETELY REMOVING ANY MOISTURE FROM THE DEVICE OR BY REMOVING THE DEVICE COMPLETELY FROM THE SYSTEM AND STORED IN A HEATED LOCATION. BACKFLOW PREVENTION DEVICES AND ENCLOSURES SHALL BE INSTALLED DOWNSTREAM OF THE METER AND SHALL REMAIN THE PROPERTY OF THE PROPERTY OWNER FOR MAINTENANCE AND OPERATION REQUIREMENTS.
- B. APPROVED BACKFLOW PREVENTION ASSEMBLY - APPROVED BACKFLOW PREVENTION ASSEMBLIES SHALL BE INCLUDED ON THE OHIO EPA LIST OF APPROVED BACKFLOW PREVENTION DEVICES, LATEST EDITION, OR APPROVED BY THE CITY.
- C. BACKFLOW PREVENTION DEVICE INSTALLATION - ALL BACKFLOW ASSEMBLIES SHALL BE INSTALLED IN SUCH A MANNER SO TO BE READILY ACCESSIBLE FOR INSPECTION, TESTING, AND MAINTENANCE. TEST COCKS CANNOT FACE TOWARDS A WALL OR OTHERWISE BE OBSTRUCTED. ALL BACKFLOW ASSEMBLIES SHALL BE INSTALLED "IN LINE" AND MUST NOT BE SMALLER THAN THE WATER METER SUPPLY LINE. ALL BACKFLOW ASSEMBLIES SHALL BE INSPECTED AND TESTED AT THE TIME OF INSTALLATION BY A STATE OF OHIO CERTIFIED BACKFLOW TESTER, WITH THE RESULTS BEING RECORDED ON A CITY-PROVIDED TEST FORM AND FORWARDED TO THE ADDRESS ON THE FORM.
1. PRESSURE VACUUM BREAKER INSTALLED AS FOLLOWS:
 - A. SHALL BE INSTALLED AT LEAST 12 INCHES ABOVE ALL DOWNSTREAM PIPING AND THE HIGHEST OUTLET OR FLOOD LEVEL RIM, OF THE FIXTURE(S) BEING SUPPLIED.
 - B. SHALL BE INSTALLED IN A VERTICAL POSITION WITH ADEQUATE SPACE TO FACILITATE MAINTENANCE AND TESTING.
 - C. SHALL BE INSTALLED IN AN AREA WHERE WATER SPILLAGE FROM THE AIR INLET VALVE IS NOT OBJECTIONABLE TO THE CONSUMER.
 - D. SHUT-OFF VALVES MAY BE INSTALLED ON THE DOWNSTREAM SIDE OF PRESSURE VACUUM BREAKERS.
 - E. DOUBLE CHECK VALVE ASSEMBLY INSTALLED AS FOLLOWS:
 - A. DOUBLE CHECK VALVE ASSEMBLIES SHALL BE INSTALLED IN A HORIZONTAL POSITION UNLESS SPECIFIED OTHERWISE BY THE MANUFACTURER AND APPROVED BY THE CITY.
 - B. INSTALLATION ABOVE GROUND LEVEL IS PREFERRED. WHERE ABOVE GROUND INSTALLATIONS ARE NOT REASONABLY PRACTICAL, A PIT OR VAULT MAY BE USED.
 - C. REDUCED PRESSURE PRINCIPLE ASSEMBLY INSTALLED AS FOLLOWS:
 - A. REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTION DEVICES SHALL BE INSTALLED ABOVE GROUND LEVEL OR FLOOR LEVEL, WHICHEVER IS HIGHER, IF INSTALLED IN AN AREA PRONE TO FLOODING.
 - B. REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTION DEVICES SHALL BE INSTALLED IN A HORIZONTAL POSITION UNLESS SPECIFIED OTHERWISE BY THE MANUFACTURER AND APPROVED BY THE CITY.
 - C. INSTALLED SO THAT THERE IS NO VISIBLE DISCHARGE FROM THE RELIEF VALVE PORT.
 - D. INSTALLED WITH A DRAIN TO RECEIVE SPILLAGE FROM THE RELIEF VALVE PORT IF THE DEVICE IS LOCATED WITHIN A BUILDING. THE RELIEF VALVE PORT, IF PIPED TO A DRAIN, MUST INCLUDE AN APPROVED AIR GAP SEPARATION AT THE DISCHARGE OPENING OF THE RELIEF VALVE PORT.
 - E. THE INSTALLATION OF THIS DEVICE IN A VAULT OR PIT IS PROHIBITED.
 - D. THERMAL EXPANSION CONTROL - PER THE OHIO BASIC BUILDING CODE, WHERE A BACKFLOW PREVENTION DEVICE IS INSTALLED ON A WATER SUPPLY SYSTEM UTILIZING STORAGE WATER HEATING EQUIPMENT SUCH THAT THERMAL EXPANSION CAUSES AN INCREASE IN PRESSURE, A THERMAL EXPANSION TANK FOR CONTROLLING PRESSURE SHALL BE INSTALLED. THE EXPANSION TANK SHALL BE INSTALLED IN THE COLD WATER SERVICE PIPING ON THE SUPPLY SIDE OF THE HOT WATER HEATER PRIOR TO ANY CONTROL VALVES. THE SIZE OF THE EXPANSION TANK IS BASED UPON THE SIZE OF THE HOT WATER HEATER AND MAY BE DETERMINED BY REFERRING TO THE MANUFACTURER RECOMMENDATIONS.
 - E. BACKFLOW PREVENTION DEVICE ENCLOSURE - THE ENCLOSURE, DEPENDING ON LOCATION, MAY BE AN EXISTING OR NEW BUILDING WHICH IS HEATED, AND WHICH MEETS THE REQUIREMENTS OF THE ARCHITECTURAL REVIEW BOARD (IF NEW) AND OTHER BUILDING ORDINANCES. IF AN EXISTING BUILDING IS NOT APPROPRIATE, A HEATED ENCLOSURE SHALL BE PROVIDED INCLUDING ELECTRICAL POWER FOR HEAT, PER THE MANUFACTURER'S RECOMMENDATIONS, BASED ON SIZE OF BACKFLOW PREVENTION DEVICE. THE HEATED ENCLOSURE SHALL COMPLY WITH ASSE-1060 PERFORMANCE REQUIREMENTS FOR OUTDOOR ENCLOSURES FOR BACKFLOW PREVENTION ASSEMBLIES.
 - NEW HEATED ENCLOSURES SHALL BE EITHER A BOX STYLE, AS MANUFACTURED BY HYDROCOWL, INC. OR HOT-BOX OR A HOT-ROK STYLE AS MANUFACTURED BY HOT-BOX. BOTH STYLES SHALL FULLY ENCLOSE THE BACKFLOW PREVENTER ASSEMBLY, VALVES, HANDWHEELS AND STEMS, AND BE CONSTRUCTED ON AN ODOT CLASS QC CONCRETE PAD, AS RECOMMENDED BY THE MANUFACTURER. THE HEATING AND ELECTRICAL REQUIREMENTS SHALL COMPLY WITH MANUFACTURERS RECOMMENDATIONS. SEE FIGURE 2.16.1.

2.17 - BACTERIA SAMPLING AND FLUSHING ASSEMBLIES

SAMPLING AND FLUSHING ASSEMBLIES WILL BE INSTALLED AS A MINIMUM EVERY 1,200 L.F. OF WATER MAIN OR AS DIRECTED BY THE CITY. A CORPORATION COCK WILL BE INSTALLED IN THE MAIN WITH A BACTERIA SAMPLING AND FLUSHING ASSEMBLY AT EACH SAMPLING LOCATION. A CURB STOP OR BALL VALVE CAN BE USED IN THE PORTION OF THE ASSEMBLY THAT IS ABOVE GROUND TO FACILITATE THE SAMPLING PROCEDURE. AT LEAST 18 INCHES OF SMOOTH COPPER TUBE MUST EXTEND BEYOND THE VALVE (LOCATED ABOVE GROUND) AND BE BENT IN A DOWNWARD ARC. ADDITIONAL LENGTH SHALL BE PROVIDED TO PREVENT FLOODING, TO GO INTO STORM CONVEYANCE SYSTEM, ETC. CONTRACTOR SHALL BE RESPONSIBLE FOR CONTROLLING DIRECTION OF FLOW TO PROPER DRAINAGE LOCATION TO PREVENT FLOODING. ONCE INSTALLED, CONTRACTOR SHALL NOT BE PERMITTED TO OPERATE OR OTHERWISE TAMPER WITH BACTERIA SAMPLING AND FLUSHING ASSEMBLIES WITHOUT APPROVAL FROM THE CITY. THE BACTERIA SAMPLING AND FLUSHING ASSEMBLY SHALL NOT BE REMOVED UNTIL THE CONTRACTOR HAS RECEIVED WRITTEN NOTICE THAT THE MAIN HAS PASSED ALL BACTERIOLOGICAL TESTS PER AWWA C651-92, SECTION 7.3 AND OHIO EPA REQUIREMENTS. SEE FIGURE 2.17.1.

MATERIALS FOR BACTERIA SAMPLING AND FLUSHING ASSEMBLIES SHALL BE AS SPECIFIED IN ITEM 2.18, WITH THE EXCEPTION THAT A BALL VALVE MAY BE SUBSTITUTED FOR THE CURB STOP. THE BALL VALVE SHALL BE BRONZE, TWO PIECE BODY, CHROME PLATED, BRASS BALL, TEFLON SEATS AND STUFFING BOX RING, WITH LEVER HANDLE AND BALANCING STOPS, SOLDER OR THREADED ENDS WITH UNION, AND SHALL BE MODEL MODEL #S-587-70 OR T-587-70 AS MANUFACTURED BY NIBCO.

SEE SECTION III - TESTING FOR ADDITIONAL TESTING REQUIREMENTS.

2.18 - SERVICE CONNECTIONS AND METERS

A. SERVICE CONNECTIONS - SERVICE CONNECTIONS SHALL BE 1 INCH FOR RESIDENTIAL SERVICES UP TO THE ROAD RIGHT-OF-WAY (SEE FIGURE 2.18.1) AND FROM THE RIGHT-OF-WAY TO THE METER SETTING. LOCATIONS OF SERVICE CONNECTIONS, WHEN SHOWN ON THE DRAWINGS, ARE APPROXIMATE ONLY. FINAL LOCATIONS WILL BE ESTABLISHED AT THE TIME OF CONSTRUCTION BY THE CITY OR A REPRESENTATIVE OF THE OWNER OF THE PROPERTY BEING SERVED. SERVICE CONNECTIONS SHALL BE INSTALLED PRIOR TO THE NEW MAINS BEING TESTED AND DISINFECTED AND PLACED IN SERVICE. FOR SERVICE CONNECTIONS GREATER THAN 2-INCH DIAMETER, SEE FIGURE 2.18.2.

SEE FIGURE 2.18.1 & FIGURE 2.18.2.

SERVICE CONNECTIONS SHALL INCLUDE THE FURNISHING AND INSTALLATION OF TAPPING SADDLE, CORPORATION STOP, CURB STOP AND BOX, AND SERVICE PIPE AND FITTINGS AS REQUIRED. MATERIALS SHALL MEET ALL APPLICABLE REQUIREMENTS OF AWWA C800. WORK SHALL BE IN ACCORDANCE WITH ALL APPLICABLE REQUIREMENTS PREVIOUSLY SPECIFIED IN THIS ITEM. TAPPING SADDLES SHALL BE USED ON SERVICES GREATER THAN 1-INCH AND SHALL BE OF BRONZE OR BRASS, WITH SILICON BRONZE SCREWS, SHALL BE DESIGNED FOR USE WITH THE TYPE OF PIPE ON WHICH THEY ARE INSTALLED, AND SHALL ACCEPT THE SUBSEQUENTLY SPECIFIED CORPORATION STOPS. MINIMUM QUALITY SHALL BE EPOXY COATED SADDLE WITH DOUBLE STAINLESS STEEL STRAPS AND BOLTS. TAPPING SADDLES SHALL INCORPORATE AN "O" RING SEAL OR GASKET WHICH SHALL EFFECT A POSITIVE HYDRAULIC SEAL. INSTALLATION SHALL BE IN STRICT ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.

CORPORATION STOPS SHALL BE OF THE BEST QUALITY BRONZE OR BRASS, BALL VALVE, AND SHALL BE A TEFLON COATED BALL VALVE AND SHALL BE COMPLETE WITH REQUIRED COUPLING AND ACCESSORIES FOR CONNECTION TO TYPE OF SERVICE PIPE PROVIDED. CORPORATION STOPS SHALL BE SUBJECTED TO AN AIR TEST AT THE FACTORY, AND SHALL BE AS MANUFACTURED BY AY MCDONALD, MODEL NO. 4701-B; MUELLER, MODEL NO. B2500; FORD METER BOX CO., MODEL FB800-X-NL, OR AS APPROVED.

CURB STOPS SHALL BE OF THE BEST QUALITY BRASS OR BRONZE, AND SHALL BE A TEFLON COATED BALL VALVE COMPLETE WITH CONNECTIONS FOR THE TYPE OF SERVICE PIPE PROVIDED FROM THE MAIN AND FOR THE TYPE OF SERVICE PIPE REQUIRED TO THE BUILDING BEING SERVED. CURB BOXES SHALL BE OF STEEL AND CAST IRON AND SHALL BE BIBBY ST. CROIX MODEL #4E ARCH BORE, OR AS APPROVED. CONCRETE BLOCKING SHALL BE PROVIDED UNDER EACH CURB BOX.

SERVICE PIPE SHALL BE OF TYPE K COPPER TUBE MEETING THE REQUIREMENTS OF ASTM B88, AND SHALL BE SOFT TEMPERED WHEN INSTALLED IN OPEN TRENCHES AND HARD TEMPERED WHEN INSTALLED BY PUSHING. FLARE TYPE UNIONS SHALL BE USED WITH THE COPPER TUBE. EACH SERVICE CONNECTION TWO INCH DIAMETER AND SMALLER SHALL BE PROVIDED WITH A TAIL PIECE OF COPPER AS SHOWN IN FIGURE 2.18.1.

PIPE SHALL BE INSTALLED UNDER STREET AND HIGHWAY PAVEMENTS BY PUSHING OR BORING, WITH NO EXCAVATION CLOSER THAN 5 FEET TO THE EDGE OF THE PAVEMENT. IN ADDITION, NO JOINTS SHALL BE PERMITTED WITHIN THESE LIMITS. WHEN BORING UNDER PAVEMENT, IF THE OPENING EXCEEDS BY 2 INCHES THE OUTSIDE DIAMETER OF THE PIPE INSTALLED, THE OPENING AROUND THE PIPE SHALL BE FILLED WITH GROUT.

B. WATER METERS - WATER METERS SHALL BE MAGNETIC DRIVE, WITH A SCANCODE REMOTE READ, I.E. RESIDENTIAL, COMMERCIAL AND INDUSTRIAL. THEY SHALL READ IN CUBIC FEET, SET WITH VALVES BEFORE AND AFTER THE METER. WATER METER SETTING SHALL BE APPROVED BY THE CITY. ALL ¾" AND 1" DIAMETER WATER METER INSTALLATIONS REQUIRE COPPER HORNS OBTAINED FROM THE CITY. INSTALLATION OF WATER METERS, SETTINGS AND REMOTE METER WIRE IS THE RESPONSIBILITY OF THE CONTRACTOR.

WATER METERS GREATER THAN 1" DIAMETER SHALL BE RIGID PLUMBED. THESE METERS SHALL HAVE BY-PASS PIPING WITH A LOCKABLE VALVE INSTALLED ON THE BY-PASS. ONLY TEFLON TAPE SHALL BE USED ON FITTINGS AND THREADS LOCATED ON THE SUPPLY SIDE OF WATER METERS.

WATER METERS 2" DIAMETER AND SMALLER SHALL BE OBTAINED FROM THE CITY. WATER METERS GREATER THAN 2" DIAMETER SHALL BE COMPOUND METERS WITH STRAINER, UNLESS OTHERWISE APPROVED BY THE CITY. WATER METERS SHALL BE HORIZONTALLY MOUNTED APPROXIMATELY 30-42" ABOVE THE FLOOR AND MUST BE ACCESSIBLE AND PROTECTED FROM DAMAGE, ESPECIALLY FREEZING.

THE OWNER/CONTRACTOR SHALL INSTALL A REMOTE WATER METER WIRE FROM THE PROPOSED WATER METER LOCATION TO THE VICINITY OF THE PROPOSED ELECTRIC METER BASE LOCATION. THE REMOTE METER WIRE SHALL TERMINATE OUTSIDE THE STRUCTURE IN THE VICINITY OF THE PROPOSED ELECTRIC METER LOCATION AND ALLOW AT LEAST A TWO FEET PITGAL AT EACH END. THE REMOTE SHALL BE SET IN THE IMMEDIATE VICINITY OF WHERE THE REMOTE WIRE EXITS THE STRUCTURE. THE REMOTE METER WIRE SHALL BE SINGLE STRANDED, THERMO-COATED, 18 GAUGE WIRE WITH THREE CONDUCTORS. THE OWNER/CONTRACTOR SHALL CONTACT THE HUDSON PUBLIC POWER OR THE ELECTRIC UTILITY IN THAT AREA TO DETERMINE THE EXACT LOCATION OF THE ELECTRIC METER BASE LOCATION. THIS REQUIREMENT SHALL APPLY TO ALL RESIDENTIAL, COMMERCIAL AND INDUSTRIAL CONNECTIONS.

PER THE OHIO BASIC BUILDING CODE, WHERE THE WATER PRESSURE WITHIN ANY BUILDING EXCEEDS 80 PSI, A WATER PRESSURE REDUCING VALVE OR REGULATOR SHALL BE INSTALLED IMMEDIATELY AFTER THE WATER METER TO REDUCE THE PRESSURE TO A MAXIMUM OF 80 PSI WITHIN THE BUILDING.

2.19 - BEDDING AND BACKFILL

A. BEDDING - PIPE EMBEDMENT SHALL BE SAND MEETING THE REQUIREMENTS OF ODOT ITEM 703.06, FROM 4-INCHES BELOW THE PIPE BARREL TO 12-INCHES ABOVE THE PIPE BARREL.

CONCRETE ENCASEMENT SHALL BE ODOT CLASS QC CONCRETE.

B. GRANULAR BACKFILL - THE GRANULAR BACKFILL SHALL MEET THE REQUIREMENTS OF ODOT ITEM 304 CRUSHED LIMESTONE OR CONTROLLED DENSITY BACKFILL IN ACCORDANCE WITH FIG. 2.25.1.

TRENCHES WITHIN RAILROAD RIGHT-OF-WAY, EXCEPT FOR LONGITUDINAL OCCUPANCY, SHALL BE BACKFILLED WITH CRUSHED STONE WITH A TOP SIZE OF THE AGGREGATE TO BE A MAXIMUM OF TWO INCHES AND TO HAVE NO MORE THAN 5% PASSING THE NUMBER OF 200 SIEVE. THE GRADATION OF THE MATERIAL IS TO BE SUCH THAT A DENSE STABLE MASS IS PRODUCED.

C. CONTROL DENSITY FILL (CDF) - CONTROL DENSITY FILL (CDF) SHALL BE ODOT ITEM 613, TYPE 1 LOW STRENGTH MORTAR, EXCEPT NO FLY ASH PERMITTED. THE DESIGN MIX USED SHALL BE APPROVED BY THE CITY, AND SHALL HAVE A MAXIMUM DESIGN STRENGTH OF 50 PSI.

II. - INSTALLATION

2.20 - PIPE LAYING AND HYDRANT INSTALLATION

PIPE SECTIONS SHALL BE STRUNG ALONG THE ROUTE OF THE MAINS WITHIN THE RIGHT-OF-WAY OR EASEMENT SO AS TO INTERFERE LEAST WITH PEDESTRIAN AND VEHICULAR TRAFFIC AND TO PROTECT THE PIPE AS FULLY AS POSSIBLE. CARE SHALL BE TAKEN AT ALL TIMES IN HANDLING THE PIPE SO AS NOT TO DAMAGE IT IN ANY WAY AND AT NO TIME SHALL OTHER PIPES OR MATERIAL BE PLACED IN THE PIPES.

THE USE OF EQUIPMENT WITH METAL TRACKS OR TREADS WILL NOT BE PERMITTED ON PAVED SURFACES WHICH WILL NOT BE REMOVED DURING TRENCHING OPERATIONS WITHOUT SOME TYPE OF PAVEMENT PROTECTION SUCH AS MATTING OR RUBBER TRACKS. HEAVY EQUIPMENT SHALL NOT BE DRIVEN OVER STREETS, BUT SHALL BE MOVED BY TRAILER.

THE MAINS SHALL BE LAID IN THE LOCATIONS AND AT THE GRADES SHOWN ON THE DRAWINGS, EXCEPT AS SPECIFICALLY PERMITTED BY THE CITY IN ORDER TO AVOID EXISTING OR PROPOSED UTILITY LINES OR ANY OTHER OBSTRUCTIONS ENCOUNTERED IN THE PROGRESS OF THE WORK; TO SECURE A MORE READILY ACCESSIBLE POSITION FOR TRENCHING; OR TO FACILITATE THE LOCATION OF VARIOUS APPURTENANCES OF THE MAIN. DEFLECTION OF PIPE JOINTS SHALL BE IN STRICT ACCORDANCE WITH THE PIPE MANUFACTURER'S INSTRUCTIONS.

WHEN ABRUPT CHANGES IN THE GRADE OF THE MAIN ARE NECESSARY TO AVOID EXISTING UTILITIES OR OTHER OBSTRUCTIONS, SUITABLE FITTINGS, USUALLY 1/8 BENDS, SHALL BE USED SO AS TO SECURE AN EASY FLOW OF LIQUID AND TO PROVIDE SUFFICIENT COVER BELOW SAME UNLESS OTHERWISE SPECIFIED OR NOTED ON THE DRAWINGS. PIPE SHALL BE SO LOCATED TO MAINTAIN A MINIMUM CLEARANCE OF 18 INCHES IN ALL DIRECTIONS WITH RESPECT TO OTHER UTILITIES TO ALLOW FOR TAPS TO BE INSERTED. CARE SHALL BE TAKEN TO AVOID HIGH AND LOW POINTS IN THE MAINS. DEAD-END STUB MAY BE TERMINATED WITH A RESTRAINED VALVE (FOR FURTHER USE) AS DETERMINED BY THE CITY.

PIPE SHALL BE LAID AT A MINIMUM 10-FOOT HORIZONTAL DISTANCE FROM SEWERS AND MANHOLES AND AT A MINIMUM 18 INCHES VERTICAL DISTANCE FROM SEWERS AT THEIR CROSSING, BOTH AS MEASURED BETWEEN THE OUTSIDE OF THE PIPE WALLS. AT CROSSINGS, ONE FULL LENGTH OF WATER MAIN PIPE SHALL BE INSTALLED CENTERED ON THE PIPE BEING CROSSED SO BOTH JOINTS WILL BE AS FAR FROM THE SEWER AS POSSIBLE.

WITH PUSH-ON JOINTS, THE SURFACES TO BE IN CONTACT WITH THE RUBBER GASKET SHALL BE WIPED CLEAN AND DRY JUST PRIOR TO MAKING THE JOINT AND, WHEN MAKING THE JOINT, A LUBRICANT SHALL BE USED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. WITH MECHANICAL JOINTS, THE SURFACES TO BE IN CONTACT WITH THE RUBBER GASKET SHALL BE BRUSHED WITH SOAPY WATER TO REMOVE ALL SAND AND GRIT JUST PRIOR TO MAKING THE JOINT.

THE CONTRACTOR IS RESPONSIBLE FOR DISINFECTION OF THE WATER MAIN IN ACCORDANCE WITH AWWA C651-92, AS SUBSEQUENTLY SPECIFIED IN ITEM 2.28. THE CONTRACTOR SHALL FOLLOW AWWA C651-14 - PREVENTIVE AND CORRECTIVE MEASURES DURING CONSTRUCTION. ALL PIPES SHALL BE THOROUGHLY CLEANED INSIDE AND OUTSIDE BEFORE BEING LOWERED INTO THE TRENCH; SHALL BE KEPT CLEAN DURING AND AFTER LAYING; AND THE END OF THE PIPE SHALL BE SEALED WITH A WATERTIGHT PLUG WHEN PIPE LAYING IS STOPPED FOR ANY REASON. IF, IN THE OPINION OF THE ENGINEER, THE PIPE CONTAINS DIRT THAT WILL NOT BE REMOVED DURING SUBSEQUENT FLUSHING OPERATIONS, THE INTERIOR OF THE PIPE SHALL BE CLEANED AND SWABBED, AS NECESSARY, WITH A 1% CHLORINE SOLUTION (10,000 MG/L) PREPARED BY MIXING ONE POUND OF HIGH-TEST CALCIUM HYPOCHLORITE (65-70% CL) AND 8 GALLONS OF WATER.

HYDRANTS SHALL BE SET PLUMB AND TO THE GRADE OF THE CURB, STREET, ALLEY, HIGHWAY OR RIGHT-OF-WAY AS APPROVED BY THE CITY. THE BREAKAWAY FLANGE SHALL BE WITHIN THREE INCHES OF FINISHED GRADE, EITHER EXISTING FOR DEVELOPED STREETS OR PROPOSED GRADE FOR PROPOSED STREETS. ANY READJUSTMENT OF THE GRADE WILL REQUIRE READJUSTMENT OF THE FIRE HYDRANT AS NOTED ABOVE. PUMPER NOZZLE SHALL ALWAYS BE SET TOWARD THE MIDDLE LINE OF THE STREET, HIGHWAY OR RIGHT-OF-WAY PRIOR TO FINAL ACCEPTANCE OF THE PROJECT. PRIOR TO THE WATER MAIN BEING PLACED INTO SERVICE, THE CONTRACTOR SHALL EITHER TURN PUMPER NOZZLE AWAY FROM THE MIDDLE LINE OF THE STREET OR PROVIDE PLASTIC BAGS, AS APPROVED BY THE CITY, TO COVER EACH HYDRANT.

THE HYDRANT BASE AND WATCH VALVE SHALL EACH REST ON APPROVED CONCRETE BLOCKING. EXCAVATION FOR HYDRANTS SHALL FIRST BE BACKFILLED WITH ODOT #57 WASHED GRAVEL (NO LIMESTONE) FOR A MINIMUM DEPTH OF TWO FEET. REMAINDER OF EXCAVATION SHALL BE BACKFILLED AS SPECIFIED FOR TRENCHES.

SHOULD IT BE NECESSARY, AS DETERMINED BY THE CITY TO SET A FIRE HYDRANT AT A GREATER DEPTH OF BURY AS A RESULT OF CHANGING HYDRANT LOCATION FROM THAT SHOWN, ELEVATION ADJUSTMENT SHALL BE ACCOMPLISHED BY FURNISHING AND INSTALLING THE FIRE HYDRANT MANUFACTURER'S STANDARD BARREL AND STEM EXTENSIONS OR GRADE ADJUSTMENT OFFSET.

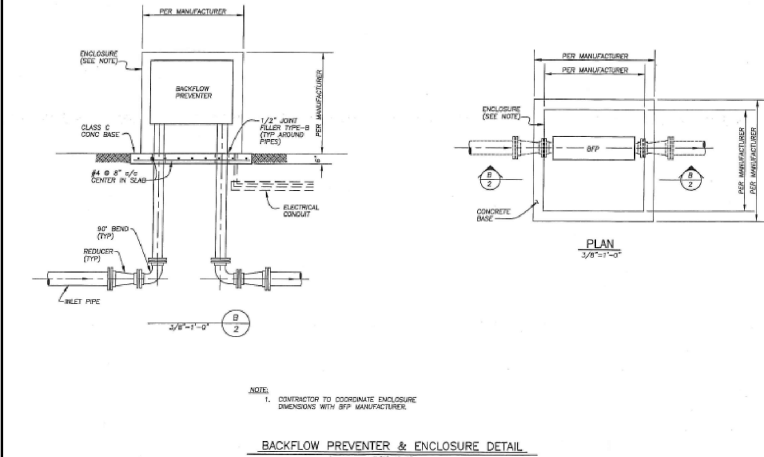


FIG 2.16.1

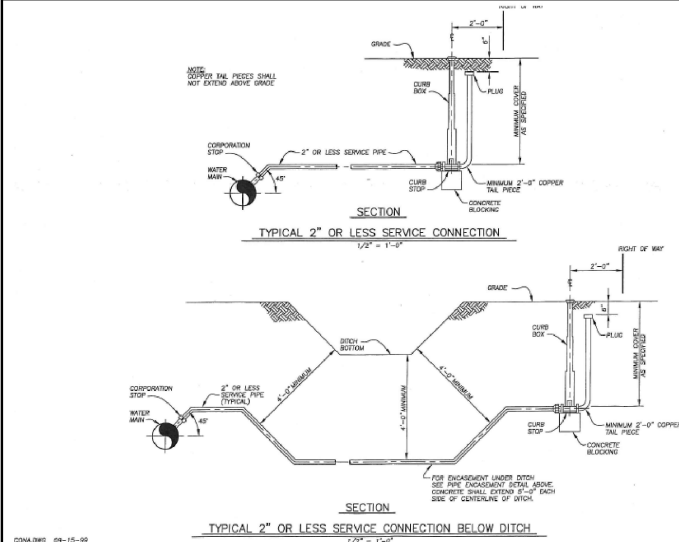


FIG 2.18.1

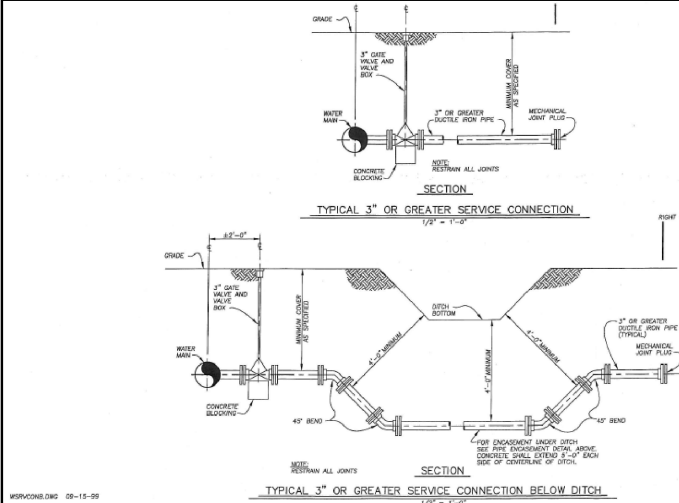


FIG 2.18.2



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Revisions / Submissions		
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CITY OF HUDSON SECTION 2. WATER DISTRIBUTION REQUIREMENTS -CONTINUED

2.21 - TRENCHES EXCEPT WHERE OTHERWISE SPECIFICALLY REQUIRED OR PERMITTED BY THE CITY, THE MAINS SHALL BE LAID IN OPEN TRENCH EXCAVATED TO A DEPTH SUFFICIENT TO PROVIDE NOT LESS THAN 4 FEET OF VERTICAL COVER OVER THE TOP OF THE PIPE BARREL AND TO PROVIDE NOT LESS THAN 4 INCHES OF BEDDING BELOW THE OUTSIDE BOTTOM OF THE PIPE BARREL. NO BLOCKING ABOVE THE PIPE BARREL. NO BLOCKING ABOVE THE PIPE BARREL. NO BLOCKING ABOVE THE PIPE BARREL. WHEN NECESSARY TO PASS UNDER OTHER UTILITIES OR OBSTRUCTIONS; OR WHERE NECESSARY TO PREVENT HIGH POINTS IN THE MAIN. IN ADDITION TO THE MINIMUM VERTICAL COVER, WHERE ANY PIPES PARALLEL. ROADSIDE DITCHES OR STREAMS, A LATERAL COVER SHALL BE PROVIDED AT LEAST EQUAL TO THE SPECIFIED VERTICAL COVER.

PRIOR TO TRENCHING, IN LAWN AREAS AND IN FIELDS USED FOR FARMING, BOTH AS DETERMINED BY THE CITY, ALL TOPSOIL SHALL BE REMOVED AND STOCKPILED FOR REPLACEMENT DURING BACKFILLING.

THE WIDTH OF THE TRENCH SHALL NOT BE MORE THAN 24 INCHES GREATER THAN THE OUTSIDE DIAMETER OF THE PIPE. EXCEPT AT JOINTS, WHERE SUFFICIENT SPACE SHALL BE PROVIDED FOR PROPERLY MAKING THE JOINTS WITHOUT RAISING THE LENGTH OF PIPE ABOVE THE SOLID BOTTOM OF THE TRENCH. CARE SHALL BE TAKEN TO DETECT AND REMOVE STONES AND DEBRIS IN THE BOTTOM OF THE TRENCH WHICH WOULD DAMAGE THE PIPE OR BE DETRIMENTAL TO THE PROPER BEDDING OF THE PIPE. WITH REMOVAL TO BE FOR A DEPTH OF AT LEAST 6 INCHES BELOW THE BOTTOM OF THE PIPE AND REPLACED WITH BEDDING MATERIAL.

TRENCHES IN ROCK SHALL BE EXCAVATED TO A DEPTH OF 6 INCHES BELOW THE OUTSIDE BOTTOM OF THE PIPE BARREL AND BELL WHEN THE PIPE IS LAID ON ITS FINAL GRADE AND THE PIPE SHALL THEN BE LAID ON A CUSHIONING LAYER OF BEDDING MATERIAL AS SPECIFIED AND PROVIDED BY THE CONTRACTOR. ROCK EXCAVATION SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS SUBSEQUENTLY SPECIFIED IN ITEM 2.27.

PRIOR TO OPEN TRENCHES ENTERING THE PAVED LIMITS OF A STREET, ALLEY, DRIVEWAY, SIDEWALKS, OR PARKING AREA, THE PAVEMENT SHALL BE NEATLY CUT FOR ITS FULL DEPTH, REMOVED, AND DISPOSED OF OFF THE PROJECT SITE. STREET AND ROAD CROSSINGS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE REQUIREMENTS SPECIFIED IN SECTION 7 - ROADWAY.

TRENCH EXCAVATION SHALL INCLUDE THE REMOVAL OF SUCH OTHER EXISTING FACILITIES NOTED TO BE REMOVED.

TRENCHES SHALL BE KEPT FREE OF WATER DURING PIPE LAYING AND JOINTING. WHEN WATER EXISTS IN THE TRENCHES AT THE TIME OF PIPE LAYING, THE CONTRACTOR SHALL DEWATER THE TRENCH AT HIS EXPENSE.

2.22 - PROTECTION OF EXISTING UTILITIES

EXISTING UNDERGROUND UTILITIES ALONG THE ROUTE OF CONSTRUCTION, AS SHOWN ON THE DRAWINGS OR MARKED AT THE TIME OF CONSTRUCTION BY THE UTILITY OWNER, SHALL BE UNCOVERED BY THE CONTRACTOR AND THEIR ELEVATIONS DETERMINED AT LEAST 200 FEET IN ADVANCE OF PIPE INSTALLATION. CONTRACTORS SHALL CONTACT OUPS 48 HOURS PRIOR TO ANY EXCAVATION WORK.

ALL UNDERGROUND UTILITIES, WHEN ENCOUNTERED, SHALL BE ADEQUATELY SUPPORTED, SHORED UP OR OTHERWISE PROTECTED WHENEVER EXPOSED IN THE EXCAVATION. TIMBER SUPPORTS SHALL BE A MINIMUM OF 6 INCHES SQUARE. SUPPORTS SHALL EXTEND INTO UNDISTURBED EARTH A MINIMUM OF 12 INCHES EACH SIDE OF THE TRENCH AND THE PIPE, CONDUIT, ETC., BANDOED OR TIED TO THE BRIDGING FOR ITS FULL LENGTH. WHERE BRIDGING CANNOT BE SUPPORTED BY A FIRM FOUNDATION, THE CONTRACTOR SHALL PROVIDE VERTICAL SUPPORT FOR THE BRIDGING, INCLUDING ANY LATERAL BRACING NECESSARY TO PROVIDE A FIRM AND SUBSTANTIAL SUPPORT. SUPPORTS AND BRACING SHALL BE OF NATIVE HARDWOOD AND SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR. (SEE FIGURE 2.22.1)

ABOVE GROUND (AERIAL) UTILITIES, INCLUDING POWER, TELEPHONE AND CABLE TELEVISION, SHALL REMAIN IN SERVICE AT ALL TIMES. ANY ANTICIPATED DISRUPTION OF SERVICE SHALL BE WITH THE FULL KNOWLEDGE OF THE UTILITY COMPANY AND REQUIRED ADVANCE NOTICE TO THE AFFECTED USERS BY THE CONTRACTOR. REMOVAL OF GUY WIRES AND HOLDING OF POLES SHALL BE DONE AS REQUIRED TO COMPLETE THE WORK. SHALL BE AS AGREED UPON BY THE UTILITY COMPANY AND THE CONTRACTOR WITH NO ADDITIONAL COST TO THE CITY.

ARBITRARY DISRUPTION OF UNDERGROUND AND AERIAL UTILITY SERVICES WILL NOT BE PERMITTED.

2.23 - TRENCH PROTECTION

WHERE NECESSARY TO PREVENT CAVING OF THE TRENCH AND OTHER EXCAVATION, AND FOR PROTECTION OF WORKMEN AND NEARBY STRUCTURES, TRENCH PROTECTION SHALL BE PROVIDED PER OSHA STANDARDS BY AND AT THE EXPENSE OF THE CONTRACTOR.

2.24 - PIPE EMBEDMENT

AFTER THE PIPE HAS BEEN LAID AND THE JOINTS MADE, THE FULL LENGTH OF EACH PIPE SHALL BE THOROUGHLY BEDDED. THE MATERIAL SHALL BE PLACED IN LAYERS NOT EXCEEDING 6 INCHES IN THICKNESS, LOOSE MEASUREMENT, AND SECURELY COMPACTED BY HAND OR MECHANICAL TAMPING TO NOT LESS THAN 98% OF MAXIMUM DENSITY AS DETERMINED IN ACCORDANCE WITH ASTM D1557 (MODIFIED PROCTOR) WHILE TAKING CARE NOT TO DISPLACE OR DAMAGE THE PIPE OR JOINTS.

AN EXCEPTION SHALL BE MADE WHERE CONCRETE ENCASEMENT IS NOTED ON THE DRAWINGS. CONCRETE ENCASEMENT SHALL BE SQUARE IN CROSS SECTION, SHALL HAVE A MINIMUM THICKNESS OF 6 INCHES AT PIPE BELLS, AND SHALL BE OF THE LENGTH NOTED. (SEE FIGURE 2.24.1)

2.25 - BACKFILLING

BACKFILL SHALL INCLUDE THE MATERIAL PLACED ABOVE THE PIPE EMBEDMENT MATERIAL PREVIOUSLY SPECIFIED. NO HEAVY OR LARGE QUANTITIES OF BACKFILL MATERIAL SHALL BE PLACED OVER THE PIPE UNTIL BACKFILLING HAS PROGRESSED TO A DEPTH OF AT LEAST 3 FEET OVER THE TOP OF THE PIPE BARREL. ALL BACKFILL MATERIAL SHALL BE CAREFULLY PLACED SO AS NOT TO DAMAGE THE JOINTS OR DISPLACE THE PIPE. BACKFILLING SHALL IMMEDIATELY FOLLOW TRENCHING AND PIPE LAYING OPERATIONS TO REDUCE THE POSSIBILITY OF DAMAGE TO PAVEMENTS AND UTILITIES.

TRENCHES WITHIN EXISTING AND PROPOSED STONED STREETS, ALLEYS, DRIVEWAYS, STONED PARKING AREAS AND CONCRETE OR BRICK SIDEWALKS SHALL BE BACKFILLED WITH GRANULAR MATERIAL. THE MATERIAL SHALL BE PLACED AND COMPACTED TO NOT LESS THAN 100% OF MAXIMUM DENSITY AS DETERMINED IN ACCORDANCE WITH ASTM D1557 (MODIFIED PROCTOR).

CONTRACTOR SHALL PROVIDE CERTIFIED PROCTOR TEST FROM LIMESTONE SUPPLIER WITH THE SHOP DRAWINGS. PRIOR TO STONE BEING DELIVERED TO THE PROJECT SITE.

WHERE MAINS ARE INSTALLED ALONG EXISTING AND PROPOSED PAVED OR STONED STREETS, ALLEYS, DRIVEWAYS AND PARKING AREAS, THE SPECIFIED COMPACTED GRANULAR MATERIAL SHALL ALSO BE PROVIDED FOR BACKFILLING ANY PORTION OF THE TRENCHES FALLING WITHIN THAT AREA BELOW A LINE DRAWN AT 45 DEGREES TO THE HORIZONTAL FROM THE SURFACE AT THE EDGE OF THE PAVEMENT OR BACK OF CURB AND ABOVE THE HORIZONTAL PLANE OF THE PIPE EMBEDMENT MATERIAL. (SEE FIGURE 2.25.1)

FOR TRENCHES WITHIN EXISTING OR PROPOSED PAVED STREETS, ALLEYS, DRIVEWAYS AND PAVED PARKING AREAS A CONTROLLED DENSITY FILL (CDF) SHALL BE PROVIDED OR BACKFILL AS APPROVED BY THE CITY. THE MIX SHALL BE PLACED IN A USABLE FLUID FORM AND IN UNIFORM VERTICAL LIFTS. DESIGN, FINISHING AND PROTECTION OF THE MATERIAL SHALL BE RECOMMENDED BY THE MANUFACTURER FOR THE APPLICATION. QUALITY CONTROL TEST PROCEDURES OF THE MANUFACTURER SHALL INCLUDE ASTM C138 - TEST FOR UNIT WEIGHT, AND ASTM C39 - TEST FOR COMPRESSIVE STRENGTH. NO COMPACTION IS REQUIRED FOR C.D.F.

TRENCHES WHERE WATER MAINS ARE INSTALLED LONGITUDINAL TO THE RAILROAD TRACKS SHALL BE BACKFILLED PER RAILROAD REQUIREMENTS. LATEST REVISIONS. THE BACKFILL MATERIAL SHALL BE PLACED IN LOOSE SIX INCH LIFTS AND COMPACTED TO AT LEAST 95% OF ITS MAXIMUM DENSITY WITH A MOISTURE CONTENT THAT IS NOT MORE THAN 1% GREATER THAN OR 2% LESS THAN THE OPTIMUM MOISTURE AS DETERMINED IN ACCORDANCE WITH CURRENT ASTM DESIGNATION D - 1557 (MODIFIED PROCTOR). WHEN THE BACKFILL MATERIAL IS WITHIN THREE FEET OF THE SUBGRADE ELEVATION (THE INTERFACE OF THE BALLAST AND THE SUBSOIL), A COMPACTION OF AT LEAST 98% WILL BE REQUIRED. COMPACTION TEST RESULTS CONFIRMING COMPLIANCE MUST BE PROVIDED TO RAILROAD COMPANY'S ENGINEER BY THE CONTRACTOR.

THE CITY MAY REQUIRE CONTRACTOR TO CHECK COMPACTION OF THE BACKFILL AT NO COST TO CITY AT ANY TIME.

WHERE TRENCHES ARE BACKFILLED WITH GRANULAR MATERIAL, THE CONTRACTOR SHALL REMOVE EXCESS EXCAVATED MATERIAL. ANY EXCESS EXCAVATED SPOIL SHALL BE REMOVED TO AN APPROVED DUMP SITE.

IN ALL PAVED STREETS AND HIGHWAYS, IMMEDIATELY UPON COMPLETION OF OTHER BACKFILLING OPERATIONS AND PRIOR TO THE END OF WORK FOR THAT DAY, A TEMPORARY PAVEMENT AS SPECIFIED IN SECTION 7 - ROADWAY SHALL BE PROVIDED AND SHALL REMAIN IN PLACE AND BE PROPERLY MAINTAINED UNTIL SUCH TIME AS THE PERMANENT PAVEMENTS ARE PLACED. PERMANENT PAVEMENTS SHALL BE PLACED WITHIN TWO WEEKS AFTER COMPLETION OF TESTS AND ACCEPTANCE OF EACH SECTION OF THE WATER MAIN.

FOR BACKFILLING THE REMAINDER OF THE TRENCHES, AS MUCH OF THE EXCAVATED MATERIAL AS POSSIBLE SHALL BE REPLACED UNTIL BACKFILLING HAS PROGRESSED TO A DEPTH OF AT LEAST 3 FEET OVER THE TOP OF THE PIPE BARREL. THE MATERIAL SHALL BE FINELY DIVIDED FREE OF STONES 3 INCHES OR GREATER IN ANY DIMENSION, BOULDERS, ORGANIC MATERIAL OR OTHER HARMFUL DEBRIS, AND SHALL BE PLACED IN 6 INCH LAYERS, LOOSE MEASUREMENT, AND COMPACTED BY MECHANICAL TAMPING.

ALSO, IMMEDIATELY UPON COMPLETION OF OTHER BACKFILLING OPERATIONS AND PRIOR TO THE END OF WORK FOR THAT DAY, A TEMPORARY SIDEWALK SHALL BE PROVIDED, AND SHALL REMAIN IN PLACE AND BE PROPERLY MAINTAINED UNTIL SUCH TIME AS THE PERMANENT SIDEWALK IS PLACED. THE TEMPORARY SIDEWALK SHALL CONSIST OF A MINIMUM OF 1-1/2 INCHES OF THE SPECIFIED COMPACTED GRANULAR BACKFILL MATERIAL PLACED TO THE SAME WIDTH AS THE ORIGINAL SIDEWALK, AND SHALL BE FURNISHED, PLACED AND MAINTAINED BY AND AT THE EXPENSE OF THE CONTRACTOR. THE TEMPORARY SIDEWALK SHALL BE RESHAPED AND REGRADED PRIOR TO THE INSTALLATION OF PERMANENT SIDEWALK.

AFTER BACKFILLING, ALONG WEED OR UNSODDED AREAS THE MATERIAL SHALL BE GRADED TO CONFORM TO THE ORIGINAL GROUND PROFILE. IN LAWN AREAS AND IN FIELDS USED FOR FARMING, ALL TOPSOIL REMOVED AND STOCKPILED PRIOR TO TRENCHING SHALL BE REPLACED AND GRADED TO CONFORM TO THE ORIGINAL GROUND PROFILE. IN LAWNS AND OTHER AREAS WHERE GRASS EXISTS, AS DETERMINED BY THE OWNER OR THE CITY, THE AREA SHALL BE GRADED AND MADE READY FOR SEEDING AS SPECIFIED IN SECTION 1. IN LAWN AREAS, IF THE EXISTING REPLACED TOPSOIL DOES NOT PROVIDE THE REQUIRED 4-INCH MINIMUM DEPTH AS SPECIFIED IN SECTION 1, THE CONTRACTOR SHALL PROVIDE ADDITIONAL TOPSOIL AT HIS EXPENSE.

THE CONTRACTOR SHALL BE REQUIRED TO REGRADE AND RESHAPE ALL ROAD SHOULDERS AND ALL DITCHES OR SWALES FROM EXISTING HIGH POINTS TO EXISTING DRAINAGE STRUCTURES OR OTHER OUTLETS ALONG THE PROPOSED IMPROVEMENT. THE CONTRACTOR AND THE CITY SHALL MUTUALLY AGREE AND ESTABLISH ALL DITCH GRADES TO BE RESTORED PRIOR TO CONSTRUCTION. DITCHES, WHICH ARE RESHAPED, SHALL HAVE REASONABLE SIDE SLOPES. VERTICAL OR STEEP SLOPES WILL NOT BE PERMITTED.

2.26 - CONNECTIONS TO MAINS

NEW MAINS SHALL BE CONNECTED TO EXISTING MAINS USING PROPER FITTINGS. CONNECTIONS SHALL BE MADE IN A MANNER ACCEPTABLE TO THE CITY. ALL CONNECTIONS TO AC PIPE SHALL BE VIA PAD ADAPTORS. AC PIPE SHALL NOT BE CUT WITH A SAW. ALL CUTS SHALL BE ACCOMPLISHED BY SNAP CUT. NO CUT-INS OR CONNECTIONS TO EXISTING MAINS SHALL BE MADE UNLESS AT LEAST 48 HOURS NOTICE OF SUCH CUT-INS OR CONNECTIONS IS GIVEN TO THE CITY. ALL SUCH WORK SHALL BE PLANNED SO AS TO REDUCE THE NUMBER OF SHUT-OFFS.

TWO DAYS PRIOR TO SHUTTING VALVES ON EXISTING LINES, THE CONTRACTOR SHALL NOTIFY IN WRITING ALL AFFECTED PROPERTY OWNERS AND THE CITY OF SUCH SHUT OFF. THE SHUT OFF TIME SHALL BE KEPT TO A MINIMUM AND SHALL BE MADE AT OFF-PEAK HOURS OR ON WEEKENDS.

THE OPERATION OF ALL EXISTING VALVES SHALL BE ACCOMPLISHED BY A REPRESENTATIVE OF THE WATER RESOURCES DEPARTMENT. THE CONTRACTOR SHALL NOT OPERATE EXISTING VALVES.

THE CITY ASSUMES NO RESPONSIBILITY FOR ANY DELAY OCCASIONED BY SPECIAL REQUIREMENTS OR CONDITIONS WHICH MUST BE MET IN MAKING CONNECTIONS.

EXTREME CARE SHALL BE TAKEN IN MAKING SUCH CONNECTIONS TO PREVENT CONTAMINATION OF THE EXISTING MAINS. BEFORE MAKING CUT-INS OR CONNECTIONS TO EXISTING MAINS, ALL FITTINGS, VALVES AND PIPE SHALL BE WASHED WITH CLEAN WATER AND THEN DISINFECTED BY WASHING WITH A CHLORINE SOLUTION HAVING A RESIDUAL CHLORINE STRENGTH OF NOT LESS THAN 50 PPM.

PLUGS REMOVED FROM EXISTING MAINS THAT ARE NOT DAMAGED MAY BE REUSED WITHIN THE PROJECT, AND THOSE REMAINING AFTER COMPLETION OF CONSTRUCTION SHALL REMAIN THE PROPERTY OF THE CITY.

2.27 - ROCK EXCAVATION

A. GENERAL - THE TERM "ROCK EXCAVATION" SHALL INCLUDE THE REMOVAL OF SUCH MATERIAL AS CANNOT BE BROKEN AND REMOVED BY ORDINARY EXCAVATING EQUIPMENT. THE DEFINITION OF ORDINARY EXCAVATING EQUIPMENT DOES NOT INCLUDE RIPPERS OR POWER OPERATED JACK HAMMERS. DISINTEGRATED, WEATHERED, ROTTEN AND LOOSE ROCK PARTICLES CAPABLE OF REMOVAL BY ORDINARY METHODS ARE NOT INCLUDED WITHIN THE SCOPE OF ROCK EXCAVATION.

B. EXCAVATION - EXCAVATION SHALL BE CARRIED TO A SUFFICIENT DEPTH TO PROVIDE FOR A CUSHIONING LAYER OF BEDDING MATERIAL AS PREVIOUSLY SPECIFIED IN ITEM 2.21. WIDTH OF TRENCH SHALL BE NOT MORE THAN PREVIOUSLY SPECIFIED FOR THE RESPECTIVE TYPE OF PIPE.

EXCAVATION FOR STRUCTURES SHALL EXTEND TO A PLANE 4 INCHES BELOW THE UNDERSIDE OF THE CONCRETE FOUNDATIONS AND BE CONFINED TO LIMITS TWO FEET BEYOND THE OUTSIDE OF SUCH FOUNDATIONS.

C. DISPOSAL OF ROCK - EXCEPT UNDER SPECIAL PERMISSION FROM THE ENGINEER, ROCK REMOVED BY EXCAVATION SHALL NOT BE USED FOR BACKFILL, BUT SHALL BE DISPOSED OF BY THE CONTRACTOR OFF THE PROJECT SITE. NECESSARY BEDDING AND BACKFILL FOR TRENCHES AND OTHER EXCAVATIONS IN ROCK EXCAVATION SHALL BE APPROVED BY THE CITY.

D. METHOD - WHERE ROCK IS ENCOUNTERED WHICH CANNOT BE REMOVED BY ORDINARY EXCAVATING METHODS, ROCK EXCAVATION, UNLESS OTHERWISE SPECIFIED, MAY BE ACCOMPLISHED BY THE USE OF EXPLOSIVES, SUBJECT TO COMPLIANCE WITH ALL FEDERAL, STATE AND LOCAL LAWS AND THE FOLLOWING REQUIREMENTS:

- 1) ALL REQUIRED PERMITS SHALL BE SECURED BY THE CONTRACTOR WELL IN ADVANCE OF SUCH OPERATIONS.
- 2) THE TRANSPORTING, HANDLING AND FIRING OF EXPLOSIVES SHALL BE PERFORMED BY SOMEONE THOROUGHLY FAMILIAR, EXPERIENCED AND, IF APPLICABLE, LICENSED IN THIS TYPE OF WORK, PREFERABLY A REPRESENTATIVE OF THE MANUFACTURER OF THE EXPLOSIVES TO BE USED.
- 3) PRIOR TO REMOVING ROCK IN ANY AREA, THE TYPE OF EXPLOSIVES TO BE USED, THE NUMBER, DEPTH AND LOADING OF HOLES TO BE DETONATED AT ANY ONE TIME, AND ANY SPECIAL PRECAUTIONS TO BE OBSERVED SHALL BE DETERMINED AT A CONFERENCE BETWEEN REPRESENTATIVES OF THE OWNER, THE CITY, THE CONTRACTOR, THE CONTRACTORS INSURANCE COMPANY AND THE PERSON DIRECTLY RESPONSIBLE FOR DETONATION. THE PROCEDURE THEREAFTER FOLLOWED IN THAT AREA SHALL CONFORM TO THE DECISIONS REACHED, SUBJECT TO ANY MODIFICATIONS WHICH MAY BE REQUIRED BECAUSE OF UNSATISFACTORY OR UNSAFE RESULTS OR THE PROCEDURE AGREED UPON.
- 4) SUITABLE TIMBER MATS OR OTHER COVERINGS SHALL BE PROVIDED TO CONFINE ALL MATERIALS LIFTED BY BLASTING WITHIN THE LIMITS OF THE EXCAVATION.
- 5) ALL PUBLIC AND PRIVATE UTILITY COMPANIES HAVING FACILITIES IN THE VICINITY SHALL BE NOTIFIED BY THE CONTRACTOR OF THE LOCATION AND TIME OF CONTEMPLATED DETONATION IN SUFFICIENT TIME TO ALLOW THEM TO PROTECT THEIR FACILITIES. LIKEWISE, WHERE OPERATIONS ARE TO BE CARRIED ON IN ANY LOCATION WHERE TRAFFIC ON STREETS OR HIGHWAYS MAY BE AFFECTED, PROPER NOTICE SHALL BE GIVEN THE LOCAL POLICE DEPARTMENT.
- 6) FOR PURPOSE OF PROTECTING THE GENERAL PUBLIC, THE CONTRACTOR AND THE OWNER, THE UTMOST COOPERATION WILL BE REQUIRED BETWEEN THE CONTRACTOR AND ALL OTHER INTERESTED PARTIES. ALL SAFETY PRECAUTIONS SHALL BE STRICTLY ENFORCED.
- 7) SHOULD PERMIT LIMITATIONS OR THE NEARNESS OF EXISTING STRUCTURES AND UTILITIES PROHIBIT THE USE OF EXPLOSIVES, ROCK EXCAVATION SHALL BE PERFORMED BY AN APPROVED ALTERNATE METHOD.
- 8) SEISMOGRAPHIC MONITORING, PRE-BLASTING AND POST-BLASTING INSPECTIONS SHALL BE PERFORMED ON THOSE STRUCTURES NEARBY TO AVOID FRAUDULENT DAMAGE CLAIMS.
- 9) DAMAGE TO EXISTING FACILITIES - THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DAMAGE TO EXISTING STRUCTURES, PIPING, SEWERS, DRAINS, CABLES, CONDUITS, EQUIPMENT AND APPURTENANCES RESULTING FROM HIS ROCK EXCAVATION OPERATIONS, AND SHALL REPAIR SAME TO THE SATISFACTION OF THE OWNER AND THE CITY.

III. - TESTING

***2.28 - DISINFECTION**

***2.29 - PRESSURE AND LEAKAGE TEST**

***2.30 - BACTERIOLOGICAL TESTS**

***2.31 - COMPLETION OF TESTS**

*VERIFY APPLICABILITY WITH CITY PRIOR TO OBTAINING PERMITS AND STARTING CONSTRUCTION FOR SERVICE AND FIRE LINES ONSITE.

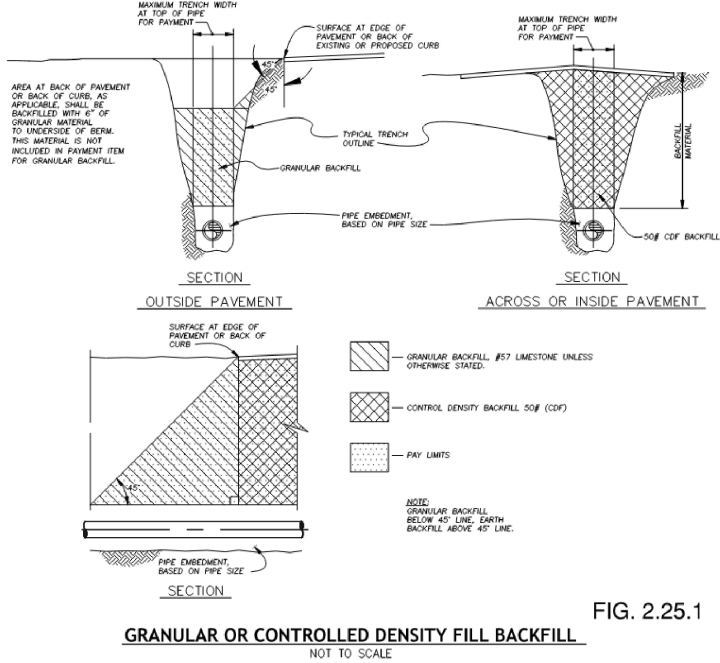
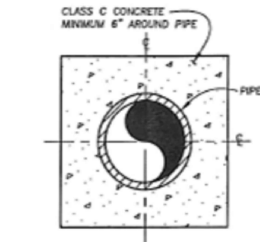
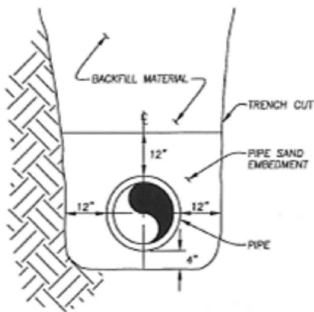


FIG. 2.25.1

GRANULAR OR CONTROLLED DENSITY FILL BACKFILL
NOT TO SCALE



SECTION
CONCRETE PIPE ENCASEMENT



GRANULAR EMBEDMENT

BEDDING DETAILS
NO SCALE

CONCNCNS.DWG 09-15-99

FIG 2.24.1



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SOL HARRIS/DAY ARCHITECTURE

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Revisions / Submissions		
ID	Description	Date

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Project Number:	765295
Scale:	AS SHOWN
Drawn By:	KAN
Checked By:	JMS
Date:	06/13/2025
Issue:	PERMIT SET

Drawing Title:
WATER DETAILS

C8.3

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CITY OF HUDSON SECTION 4. STORM COLLECTION

I. MATERIALS

A. PIPE AND FITTINGS

REQUIREMENTS - PIPE, FITTINGS, AND APPURTENANCES SHALL CONFORM TO THE LATEST EDITION OF THE REFERENCED STANDARDS.

MAIN LINE SEWERS, PIPES, CULVERTS, ETC. SHALL BE A MINIMUM SIZE OF 12-INCH DIAMETER. ALL SEWERS AND PIPES 15-INCH AND SMALLER SHALL BE PVC SDR35, PER ASTM D3034 OR POLYPROPYLENE MEETING ASTM F2764 UNLESS OTHERWISE DIRECTED BY THE CITY ENGINEER. ALL SEWERS AND PIPES GREATER THAN 15-INCH SHALL BE CONCRETE MEETING ASTM C76 CLASS IV UNLESS OTHERWISE DIRECTED BY THE CITY ENGINEER. POLYPROPYLENE PIPE MAY ONLY BE USED OUTSIDE THE PUBLIC ROADWAY'S PAVEMENT, AND ABOVE THE ROADWAY'S ANGLE OF REPOSE (ABOVE A 45-DEGREE LINE EXTENDING FROM THE EDGE OF PAVEMENT OR CURB DOWNWARDS).

ALL DRIVE CULVERTS WITH TWO (2) FOOT OR LESS COVER ABOVE THE TOP OF THE CULVERT SHALL BE EITHER CONCRETE PIPE, MEETING ASTM C76 CLASS IV, OR CONCRETE ENCASED PVC SDR 35 OR POLYPROPYLENE PIPE. THE CONCRETE ENCASEMENT SHALL BE CLASS M5, POURED THE ENTIRE LENGTH OF THE CULVERT, FROM THE SPRING LINE OF THE PIPE TO THE BOTTOM OF THE PROPOSED DRIVEWAY APPROACH. A VISQUEEN BARRIER SHALL BE PROVIDED BETWEEN THE CONCRETE ENCASEMENT AND BOTTOM OF THE APPROACH. ALL DRIVE CULVERTS WITH GREATER THAN TWO (2) FEET OF COVER SHALL BE OF PIPE MATERIAL AS SPECIFIED FOR SEWERS AND PIPES.

ALL DRIVE CULVERTS GREATER THAN 15-INCH SHALL HAVE INSTALLED, AS A MINIMUM, HALF-HEIGHT HEAD WALLS. FULL HEADWALLS MAY BE REQUIRED UPON REVIEW BY THE CITY. ALL DRIVE CULVERTS 15-INCH OR SMALLER ARE NOT REQUIRED TO HAVE HEADWALLS.

THE MANUFACTURER SHALL FURNISH AN AFFIDAVIT INDICATING THAT THE PIPE, FITTINGS AND APPURTENANCES HAVE BEEN MANUFACTURED AND TESTED IN ACCORDANCE WITH THE REQUIREMENTS OF THE APPLICABLE REFERENCED STANDARDS. A COPY OF THE AFFIDAVIT, INDICATING THE PROJECT ON WHICH THE MATERIAL IS TO BE USED, SHALL BE SUBMITTED AS A SHOP DRAWING TO THE CITY PRIOR TO CONSTRUCTION.

ALL PIPES, FITTINGS AND APPURTENANCES SHALL BE APPROPRIATELY MARKED FOR PURPOSES OF IDENTIFICATION. THE MATERIALS AND METHODS OF MANUFACTURE, AND THE COMPLETED PIPES, FITTINGS AND APPURTENANCES SHALL BE SUBJECT TO INSPECTION AND REJECTION AT ALL TIMES. THE CITY HAS THE RIGHT TO MAKE INSPECTIONS.

FOR NEW PUBLIC STORM SEWERS THAT TRANSITION FROM THE RIGHT-OF-WAY TO AN EASEMENT ON PRIVATE PROPERTY, THE STORM SEWER MATERIAL USED WITHIN THE RIGHT-OF-WAY WILL BE USED WITHIN THE DOWNSTREAM SECTION ON PRIVATE PROPERTY.

B. PVC PLASTIC PIPE AND FITTINGS - PVC PLASTIC PIPE AND FITTINGS SHALL HAVE A MINIMUM PIPE STIFFNESS OF 46 PSI AT 5% DEFLECTION WHEN TESTED IN ACCORDANCE WITH ASTM D2412, AND, AS APPLICABLE FOR THE SIZES INVOLVED, SHALL MEET THE REQUIREMENTS OF ASTM D3034, ASTM F679 OR ASTM D2729. THE PIPE SHALL BE OF THE ELASTOMERIC GASKET JOINT (INTEGRAL BELL) TYPE. JOINTS SHALL PROVIDE A WATERTIGHT SEAL AND SHALL BE MADE IN ACCORDANCE WITH THE PIPE MANUFACTURER'S INSTRUCTIONS. JOINTS SHALL BE OF THE PUSH-ON TYPE MEETING THE REQUIREMENTS OF ASTM D3212, AND, IN ADDITION, THE BELL SHALL BE DESIGNED TO RETAIN THE GASKET TO PREVENT PULL-OUT DURING THE MAKING OF THE JOINT.

PVC PLASTIC FITTINGS FOR USE WITH ASTM D3034 PIPE EIGHT (8) INCH IN SIZE AND SMALLER SHALL MEET THE REQUIREMENTS OF ASTM D3034 WITH A MINIMUM WALL THICKNESS OF SDR 35 AS DEFINED IN SECTION 7.4.1, AND SHALL BE MOLDED IN ONE PIECE WITH ELASTOMERIC JOINTS AND MINIMUM SOCKET DEPTHS AS SPECIFIED IN SECTIONS 6.2 AND 7.3.2. PVC MATERIAL SHALL HAVE A CELL CLASSIFICATION OF 1254-S OR C AS DEFINED IN ASTM D1784. GASKETS SHALL HAVE MINIMUM CROSS SECTIONAL AREA OF 0.20 SQ. IN. AND SHALL MEET THE REQUIREMENTS OF ASTM F447.

PVC PLASTIC FITTINGS FOR USE WITH ASTM D3034 PIPE TEN (10) INCH IN SIZE AND LARGER, AND FOR USE WITH ALL SIZES OF PVC PLASTIC PIPES OTHER THAN ASTM D3034 SHALL BE MOLDED OR FABRICATED IN ACCORDANCE WITH, AND HAVE JOINTS MEETING THE REQUIREMENTS OF THE ASTM STANDARD AS SPECIFIED FOR THE PIPE.

AT THE END OF ALL FITTINGS, PREMANUFACTURED TEES, ETC., OF ALL PIPE INSTALLATIONS, THE FINAL FITTING AT THE "PLUG" SHALL BE SDR 35 COMPATIBLE. NON-COMPATIBLE JOINTS TO EXISTING SEWERS SHALL BE MADE USING BANDED NEOPRENE COUPLINGS AS MANUFACTURED BY FERROCO, INC., OR CITY-APPROVED EQUAL.

THE PIPE SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D3231, AND WITH THE REQUIREMENTS OF THESE SPECIFICATIONS. ANY REQUIREMENTS IN THESE SPECIFICATIONS WHICH MAY BE IN CONFLICT OR INCONSISTENT WITH THE REQUIREMENTS OF ASTM D3231 SHALL BE VOID TO THE EXTENT OF SUCH CONFLICT OR INCONSISTENCY, EXCEPT IN ALL CASES MATERIAL FOR PIPE EMBEDMENT SHALL BE AS SUBSEQUENTLY SPECIFIED IN ITEM 4.12. PVC PLASTIC PIPE SHALL BE TESTED FOR DEFLECTION AS SUBSEQUENTLY SPECIFIED IN DIVISION III.

C. CONCRETE PIPE AND FITTINGS - CONCRETE PIPE AND FITTINGS SHALL BE OF THE SPIGOT AND SOCKET OR TONGUE AND GROOVE PATTERN MEETING THE REQUIREMENTS OF ASTM C76 AND SHALL BE CLASS IV OR V. PIPES SHALL BE OF THE GREATEST LENGTHS COMMERCIALY AVAILABLE. CIRCULAR PIPES HAVING ELLIPTICAL REINFORCING SHALL HAVE THE WORD "TOP" OR "BOTTOM" CLEARLY STENCILED ON THE INSIDE OF THE PIPE AT THE CORRECT PLACE TO INDICATE THE PROPER POSITION WHEN LAID. JOINTS SHALL BE OF THE RUBBER GASKET TYPE MEETING THE REQUIREMENTS OF ASTM C443. THE GASKET SHALL BE CONFINED IN A GROOVE AND SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.

FOR CONCRETE PIPES INSTALLED IN OPEN TRENCH, THE MAXIMUM ALLOWABLE TRENCH WIDTH AT THE TOP OF THE PIPE FOR THE VARIOUS SIZES AND CLASSES OF PIPE SHALL BE AS FOLLOWS:

CONCRETE PIPE TRENCH WIDTH

(AS MEASURED AT TOP OF PIPE)PIPE DIAMETERASTM C76-CLASSCONCRETE PIPE TRENCH WIDTH

(AS MEASURED AT TOP OF PIPE)PIPE DIAMETERASTM C76-CLASS(INCHES)INVT12'-0"3'-0"15'-0"3'-3"18'-3"3'-6"21'-3"6'-3"24'-0"4'-3"27'-4"6'-4"30'-4"9'-5"33'-5"36'-5"40'-6"43'-6"46'-6"49'-6"52'-6"55'-6"58'-6"61'-6"64'-6"67'-6"70'-6"73'-6"76'-6"79'-6"82'-6"85'-6"88'-6"91'-6"94'-6"97'-6"100'-6"103'-6"106'-6"109'-6"112'-6"115'-6"118'-6"121'-6"124'-6"127'-6"130'-6"133'-6"136'-6"139'-6"142'-6"145'-6"148'-6"151'-6"154'-6"157'-6"160'-6"163'-6"166'-6"169'-6"172'-6"175'-6"178'-6"181'-6"184'-6"187'-6"190'-6"193'-6"196'-6"199'-6"202'-6"205'-6"208'-6"211'-6"214'-6"217'-6"220'-6"223'-6"226'-6"229'-6"232'-6"235'-6"238'-6"241'-6"244'-6"247'-6"250'-6"253'-6"256'-6"259'-6"262'-6"265'-6"268'-6"271'-6"274'-6"277'-6"280'-6"283'-6"286'-6"289'-6"292'-6"295'-6"298'-6"301'-6"304'-6"307'-6"310'-6"313'-6"316'-6"319'-6"322'-6"325'-6"328'-6"331'-6"334'-6"337'-6"340'-6"343'-6"346'-6"349'-6"352'-6"355'-6"358'-6"361'-6"364'-6"367'-6"370'-6"373'-6"376'-6"379'-6"382'-6"385'-6"388'-6"391'-6"394'-6"397'-6"400'-6"403'-6"406'-6"409'-6"412'-6"415'-6"418'-6"421'-6"424'-6"427'-6"430'-6"433'-6"436'-6"439'-6"442'-6"445'-6"448'-6"451'-6"454'-6"457'-6"460'-6"463'-6"466'-6"469'-6"472'-6"475'-6"478'-6"481'-6"484'-6"487'-6"490'-6"493'-6"496'-6"499'-6"502'-6"505'-6"508'-6"511'-6"514'-6"517'-6"520'-6"523'-6"526'-6"529'-6"532'-6"535'-6"538'-6"541'-6"544'-6"547'-6"550'-6"553'-6"556'-6"559'-6"562'-6"565'-6"568'-6"571'-6"574'-6"577'-6"580'-6"583'-6"586'-6"589'-6"592'-6"595'-6"598'-6"601'-6"604'-6"607'-6"610'-6"613'-6"616'-6"619'-6"622'-6"625'-6"628'-6"631'-6"634'-6"637'-6"640'-6"643'-6"646'-6"649'-6"652'-6"655'-6"658'-6"661'-6"664'-6"667'-6"670'-6"673'-6"676'-6"679'-6"682'-6"685'-6"688'-6"691'-6"694'-6"697'-6"700'-6"703'-6"706'-6"709'-6"712'-6"715'-6"718'-6"721'-6"724'-6"727'-6"730'-6"733'-6"736'-6"739'-6"742'-6"745'-6"748'-6"751'-6"754'-6"757'-6"760'-6"763'-6"766'-6"769'-6"772'-6"775'-6"778'-6"781'-6"784'-6"787'-6"790'-6"793'-6"796'-6"799'-6"802'-6"805'-6"808'-6"811'-6"814'-6"817'-6"820'-6"823'-6"826'-6"829'-6"832'-6"835'-6"838'-6"841'-6"844'-6"847'-6"850'-6"853'-6"856'-6"859'-6"862'-6"865'-6"868'-6"871'-6"874'-6"877'-6"880'-6"883'-6"886'-6"889'-6"892'-6"895'-6"898'-6"901'-6"904'-6"907'-6"910'-6"913'-6"916'-6"919'-6"922'-6"925'-6"928'-6"931'-6"934'-6"937'-6"940'-6"943'-6"946'-6"949'-6"952'-6"955'-6"958'-6"961'-6"964'-6"967'-6"970'-6"973'-6"976'-6"979'-6"982'-6"985'-6"988'-6"991'-6"994'-6"997'-6"1000'-6"1003'-6"1006'-6"1009'-6"1012'-6"1015'-6"1018'-6"1021'-6"1024'-6"1027'-6"1030'-6"1033'-6"1036'-6"1039'-6"1042'-6"1045'-6"1048'-6"1051'-6"1054'-6"1057'-6"1060'-6"1063'-6"1066'-6"1069'-6"1072'-6"1075'-6"1078'-6"1081'-6"1084'-6"1087'-6"1090'-6"1093'-6"1096'-6"1099'-6"1102'-6"1105'-6"1108'-6"1111'-6"1114'-6"1117'-6"1120'-6"1123'-6"1126'-6"1129'-6"1132'-6"1135'-6"1138'-6"1141'-6"1144'-6"1147'-6"1150'-6"1153'-6"1156'-6"1159'-6"1162'-6"1165'-6"1168'-6"1171'-6"1174'-6"1177'-6"1180'-6"1183'-6"1186'-6"1189'-6"1192'-6"1195'-6"1198'-6"1201'-6"1204'-6"1207'-6"1210'-6"1213'-6"1216'-6"1219'-6"1222'-6"1225'-6"1228'-6"1231'-6"1234'-6"1237'-6"1240'-6"1243'-6"1246'-6"1249'-6"1252'-6"1255'-6"1258'-6"1261'-6"1264'-6"1267'-6"1270'-6"1273'-6"1276'-6"1279'-6"1282'-6"1285'-6"1288'-6"1291'-6"1294'-6"1297'-6"1300'-6"1303'-6"1306'-6"1309'-6"1312'-6"1315'-6"1318'-6"1321'-6"1324'-6"1327'-6"1330'-6"1333'-6"1336'-6"1339'-6"1342'-6"1345'-6"1348'-6"1351'-6"1354'-6"1357'-6"1360'-6"1363'-6"1366'-6"1369'-6"1372'-6"1375'-6"1378'-6"1381'-6"1384'-6"1387'-6"1390'-6"1393'-6"1396'-6"1399'-6"1402'-6"1405'-6"1408'-6"1411'-6"1414'-6"1417'-6"1420'-6"1423'-6"1426'-6"1429'-6"1432'-6"1435'-6"1438'-6"1441'-6"1444'-6"1447'-6"1450'-6"1453'-6"1456'-6"1459'-6"1462'-6"1465'-6"1468'-6"1471'-6"1474'-6"1477'-6"1480'-6"1483'-6"1486'-6"1489'-6"1492'-6"1495'-6"1498'-6"1501'-6"1504'-6"1507'-6"1510'-6"1513'-6"1516'-6"1519'-6"1522'-6"1525'-6"1528'-6"1531'-6"1534'-6"1537'-6"1540'-6"1543'-6"1546'-6"1549'-6"1552'-6"1555'-6"1558'-6"1561'-6"1564'-6"1567'-6"1570'-6"1573'-6"1576'-6"1579'-6"1582'-6"1585'-6"1588'-6"1591'-6"1594'-6"1597'-6"1600'-6"1603'-6"1606'-6"1609'-6"1612'-6"1615'-6"1618'-6"1621'-6"1624'-6"1627'-6"1630'-6"1633'-6"1636'-6"1639'-6"1642'-6"1645'-6"1648'-6"1651'-6"1654'-6"1657'-6"1660'-6"1663'-6"1666'-6"1669'-6"1672'-6"1675'-6"1678'-6"1681'-6"1684'-6"1687'-6"1690'-6"1693'-6"1696'-6"1699'-6"1702'-6"1705'-6"1708'-6"1711'-6"1714'-6"1717'-6"1720'-6"1723'-6"1726'-6"1729'-6"1732'-6"1735'-6"1738'-6"1741'-6"1744'-6"1747'-6"1750'-6"1753'-6"1756'-6"1759'-6"1762'-6"1765'-6"1768'-6"1771'-6"1774'-6"1777'-6"1780'-6"1783'-6"1786'-6"1789'-6"1792'-6"1795'-6"1798'-6"1801'-6"1804'-6"1807'-6"1810'-6"1813'-6"1816'-6"1819'-6"1822'-6"1825'-6"1828'-6"1831'-6"1834'-6"1837'-6"1840'-6"1843'-6"1846'-6"1849'-6"1852'-6"1855'-6"1858'-6"1861'-6"1864'-6"1867'-6"1870'-6"1873'-6"1876'-6"1879'-6"1882'-6"1885'-6"1888'-6"1891'-6"1894'-6"1897'-6"1900'-6"1903'-6"1906'-6"1909'-6"1912'-6"1915'-6"1918'-6"1921'-6"1924'-6"1927'-6"1930'-6"1933'-6"1936'-6"1939'-6"1942'-6"1945'-6"1948'-6"1951'-6"1954'-6"1957'-6"1960'-6"1963'-6"1966'-6"1969'-6"1972'-6"1975'-6"1978'-6"1981'-6"1984'-6"1987'-6"1990'-6"1993'-6"1996'-6"1999'-6"2002'-6"2005'-6"2008'-6"2011'-6"2014'-6"2017'-6"2020'-6"2023'-6"2026'-6"2029'-6"2032'-6"2035'-6"2038'-6"2041'-6"2044'-6"2047'-6"2050'-6"2053'-6"2056'-6"2059'-6"2062'-6"2065'-6"2068'-6"2071'-6"2074'-6"2077'-6"2080'-6"2083'-6"2086'-6"2089'-6"2092'-6"2095'-6"2098'-6"2101'-6"2104'-6"2107'-6"2110'-6"2113'-6"2116'-6"2119'-6"2122'-6"2125'-6"2128'-6"2131'-6"2134'-6"2137'-6"2140'-6"2143'-6"2146'-6"2149'-6"2152'-6"2155'-6"2158'-6"2161'-6"2164'-6"2167'-6"2170'-6"2173'-6"2176'-6"2179'-6"2182'-6"2185'-6"2188'-6"2191'-6"2194'-6"2197'-6"2200'-6"2203'-6"2206'-6"2209'-6"2212'-6"2215'-6"2218'-6"2221'-6"2224'-6"2227'-6"2230'-6"2233'-6"2236'-6"2239'-6"2242'-6"2245'-6"2248'-6"2251'-6"2254'-6"2257'-6"2260'-6"2263'-6"2266'-6"2269'-6"2272'-6"2275'-6"2278'-6"2281'-6"2284'-6"2287'-6"2290'-6"2293'-6"2296'-6"2299'-6"2302'-6"2305'-6"2308'-6"2311'-6"2314'-6"2317'-6"2320'-6"2323'-6"2326'-6"2329'-6"2332'-6"2335'-6"2338'-6"2341'-6"2344'-6"2347'-6"2350'-6"2353'-6"2356'-6"2359'-6"2362'-6"2365'-6"2368'-6"2371'-6"2374'-6"2377'-6"2380'-6"2383'-6"2386'-6"2389'-6"2392'-6"2395'-6"2398'-6"2401'-6"2404'-6"2407'-6"2410'-6"2413'-6"2416'-6"2419'-6"2422'-6"2425'-6"2428'-6"2431'-6"2434'-6"2437'-6"2440'-6"2443'-6"2446'-6"2449'-6"2452'-6"2455'-6"2458'-6"2461'-6"2464'-6"2467'-6"2470'-6"2473'-6"2476'-6"2479'-6"2482'-6"2485'-6"2488'-6"2491'-6"2494'-6"2497'-6"2500'-6"2503'-6"2506'-6"2509'-6"2512'-6"2515'-6"2518'-6"2521'-6"2524'-6"2527'-6"2530'-6"2533'-6"2536'-6"2539'-6"2542'-6"2545'-6"2548'-6"2551'-6"2554'-6"2557'-6"2560'-6"2563'-6"2566'-6"2569'-6"2572'-6"2575'-6"2578'-6"2581'-6"2584'-6"2587'-6"2590'-6"2593'-6"2596'-6"2599'-6"2602'-6"2605'-6"2608'-6"2611'-6"2614'-6"2617'-6"2620'-6"2623'-6"2626'-6"2629'-6"2632'-6"2635'-6"2638'-6"2641'-6"2644'-6"2647'-6"2650'-6"2653'-6"2656'-6"2659'-6"2662'-6"2665'-6"2668'-6"2671'-6"2674'-6"2677'-6"2680'-6"2683'-6"2686'-6"2689'-6"2692'-6"2695'-6"2698'-6"2701'-6"2704'-6"2707'-6"2710'-6"2713'-6"2716'-6"2719'-6"2722'-6"2725'-6"2728'-6"2731'-6"2734'-6"2737'-6"2740'-6"2743'-6"2746'-6"2749'-6"2752'-6"2755'-6"2758'-6"2761'-6"2764'-6"2767'-6"2770'-6"2773'-6"2776'-6"2779'-6"2782'-6"2785'-6"2788'-6"2791'-6"2794'-6"2797'-6"2800'-6"2803'-6"2806'-6"2809'-6"2812'-6"2815'-6"2818'-6"2821'-6"2824'-6"2827'-6"2830'-6"2833'-6"2836'-6"2839'-6"2842'-6"2845'-6"2848'-6"2851'-6"2854'-6"2857'-6"2860'-6"2863'-6"2866'-6"2869'-6"2872'-6"2875'-6"2878'-6"2881'-6"2884'-6"2887'-6"2890'-6"2893'-6"2896'-6"2899'-6"2902'-6"2905'-6"2908'-6"2911'-6"2914'-6"2917'-6"2920'-6"2923'-6"2926'-6"2929'-6"2932'-6"2935'-6"2938'-6"2941'-6"2944'-6"2947'-6"2950'-6"2953'-6"2956'-6"2959'-6"2962'-6"2965'-6"2968'-6"2971'-6"2974'-6"2977'-6"2980'-6"2983'-6"2986'-6"2989'-6"2992'-6"2995'-6"2998'-6"3001'-6"3004'-6"3007'-6"3010'-6"3013'-6"3016'-6"3019'-6"3022'-6"3025'-6"3028'-6"3031'-6"3034'-6"3037'-6"3040'-6"3043'-6"3046'-6"3049'-6"3052'-6"3055'-6"3058'-6"3061'-6"3064'-6"3067'-6"3070'-6"3073'-6"3076'-6"3079'-6"3082'-6"3085'-6"3088'-6"3091'-6"3094'-6"3097'-6"3100'-6"3103'-6"3106'-6"3109'-6"3112'-6"3115'-6"3118'-6"3121'-6"3124'-6"3127'-6"3130'-6"3133'-6"3136'-6"3139'-6"3142'-6"3145'-6"3148'-6"3151'-6"3154'-6"3157'-6"3160'-6"3163'-6"3166'-6"3169'-6"3172'-6"3175'-6"3178'-6"3181'-6"3184'-6"3187'-6"3190'-6"3193'-6"3196'-6"3199'-6"3202'-6"3205'-6"3208'-6"3211'-6"3214'-6"3217'-6"3220'-6"3223'-6"3226'-6"3229'-6"3232'-6"3235'-6"3238'-6"3241'-6"3244'-6"3247'-6"3250'-6"3253'-6"3256'-6"3259'-6"3262'-6"3265'-6"3268'-6"3271'-6"3274'-6"3277'-6"3280'-6"3283'-6"3286'-6"3289'-6"3292'-6"3295'-6"3298'-6"3301'-6"3304'-6"3307'-6"3310'-6"3313'-6"3316'-6"3319'-6"3322'-6"3325'-6"3328'-6"3331'-6"3334'-6"3337'-6"3340'-6"3343'-6"3346'-6"3349'-6"3352'-6"3355'-6"3358'-6"3361'-6"3364'-6"3367'-6"3370'-6"3373'-6"3376'-6"3379'-6"3382'-6"3385'-6"3388'-6"3391'-6"3394'-6"3397'-6"3400'-6"3403'-6"3406'-6"3409'-6"3412'-6"3415'-6"3418'-6"3421'-6"3424'-6"3427'-6"3430'-6"3433'-6"3436'-6"3439'-6"3442'-6"3445'-6"3448'-6"3451'-6"3454'-6"3457'-6"3460'-6"3463'-6"3466'-6"3469'-6"3472'-6"3475'-6"3478'-6"3481'-6"3484'-6"3487'-6"3490'-6"3493'-6"3496'-6"3499'-6"3502'-6"3505'-6"3508'-6"3511'-6"3514'-6"3517'-6"3520'-6"3523'-6"3526'-6"3529'-6"3532'-6"3535'-6"3538'-6"3541'-6"3544'-6"3547'-6"3550'-6"3553'-6"3556'-6"3559'-6"3562'-6"3565'-6"3568'-6"3571'-6"3574'-6"3577'-6"3580'-6"3583'-6"3586'-6"3589'-6"3592'-6"3595'-6"3598'-6"3601'-6"3604'-6"3607'-6"3610'-6"3613'-6"3616'-6"3619'-6"3622'-6"3625'-6"3628'-6"3631'-6"3634'-6"3637'-6"3640'-6"3643'-6"3646'-6"3649'-6"3652'-6"3655'-6"3658'-6"3661'-6"3664'-6"3667'-6"3670'-6"3673'-6"3676'-6"3679'-6"3682'-6"3685'-6"3688'-6"3691'-6"3694'-6"3697'-6"3700'-6"3703'-6"3706'-6"3709'-6"3712'-6"3715'-6"3718'-6"3721'-6"3724'-6"3727'-6"3730'-6"3733'-6"3736'-6"3739'-6"3742'-6"3745'-6"3748'-6"3751'-6"3754'-6"3757'-6"3760'-6"3763'-6"3766'-6"3769'-6"3772'-6"3775'-6"3778'-6"3781'-6"3784'-6"3787'-6"3790'-6"3793'-6"3796'-6"3799'-6"3802'-6"3805'-6"3808'-6"3811'-6"3814'-6"3817'-6"3820'-6"3823'-6"3826'-6"3829'-6"3832'-6"3835'-6"3838'-6"3841'-6"3844'-6"3847'-6"3850'-6"3853'-6"3856'-6"3859'-6"3862'-6"3865'-6"3868'-6"3871'-6"3874'-6"3877'-6"3880'-6"3883'-6"3886'-6"3889'-6"3892'-6"3895'-6"3898'-6"3901'-6"3904'-6"3907'-6"3910'-6"3913'-6"3916'-6"3919'-6"3922'-6"3925'-6"3928'-6"3931'-6"3934'-6"3937'-6"3940'-6"3943'-6"3946'-6"3949'-6"3952'-6"3955'-6"3958'-6"3961'-6"3964'-6"3967'-6"3970'-6"3973'-6"3976'-6"3979'-6"3982'-6"3985'-6"3988'-6"3991'-6"3994'-6"3997'-6"4000'-6"4003'-6"4006'-6"4009'-6"4012'-6"4015'-6"4018'-6"4021'-6"4024'-6"4027'-6"4030'-6"4033'-6"4036'-6"4039'-6"4042'-6"4045'-6"4048'-6"4051'-6"4054'-6"4057'-6"4060'-6"4063'-6"4066'-6"4069'-6"4072'-6"4075'-6"4078'-6"4081'-6"4084'-6"4087'-6"4090'-6"4093'-6"4096'-6"4099'-6"4102'-6"4105'-6"4108'-6"4111'-6"4114'-6"4117'-6"4120'-6"4123'-6"4126'-6"4129'-6"4132'-6"4135'-6"4138'-6"4141'-6"4144'-6"4147'-6"4150'-6"4153'-6"4156'-6"4159'-6"4162'-6"4165'-6"4168'-6"4171'-6"4174'-6"4177'-6"4180'-6"4183'-6"4186'-6"4189'-6"4192'-6"4195'-6"4198'-6"4201'-6"4204'-6"4207'-6"4210'-6"4213'-6"4216'-6"4219'-6"4222'-6"4225'-6"4228'-6"4231'-6"4234'-6"4237'-6"4240'-6"4243'-6"4246'-6"4249'-6"4252'-6"4255'-6"4258'-6"4261'-6"4264'-6"4267'-6"4270'-6"4273'-6"4276'-6"4279'-6"4282'-6"4285'-6"4288'-6"4291'-6"4294'-6"4297'-6"4300'-6"4303'-6"4306'-6"4309'-6"4312'-6"4315'-6"4318'-6"4321'-6"4324'-6"4327'-6"4330'-6"4333'-6"4336'-6"4339'-6"4342'-6"4345'-6"4348'-6"4351'-6"4354'-6"4357'-6"4360'-6"4363'-6"4366'-6"4369'-6"4372'-6"4375'-6"4378'-6"4381'-6"4384'-6"4387'-6"4390'-6"4393'-6"4396'-6"4399'-6"4402'-6"4405'-6"4408'-6"4411'-6"4414'-6"4417'-6"4420'-6"4423'-6"4426'-6"4429'-6"4432'-6"4435'-6"4438

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CITY OF HUDSON SECTION 4. STORM COLLECTION
4.12 TRENCH PROTECTION

WHERE NECESSARY TO PREVENT CAVING OF THE TRENCH AND OTHER EXCAVATION, AND FOR PROTECTION OF WORKMEN AND NEARBY STRUCTURES, TRENCH PROTECTION SHALL BE PROVIDED PER OSHA STANDARDS BY AND AT THE EXPENSE OF THE CONTRACTOR. TRENCH PROTECTION SHALL BE BY TRENCH BOX, WOOD SHEETING AND BRACING OR SUCH OTHER METHODS AS DETERMINED BY THE CONTRACTOR. IF WOOD SHEETING OR BRACING IS USED, THE DESIGN OF THE SHEETING OR BRACING SHALL BE SEALED BY AN OHIO REGISTERED PROFESSIONAL ENGINEER AND SUBMITTED TO THE CITY PRIOR TO INSTALLATION. CONTRACTOR SHALL HAVE A COMPETENT PERSON ON-SITE TO DETERMINE THE APPROPRIATE METHOD FOR THE CONDITIONS.

WOOD SHEETING AND BRACING SHALL BE OF SOUND LUMBER SUITABLE FOR THE PURPOSE INTENDED AND SHALL BE SO ARRANGED AS TO SUPPORT THE TRENCH WALLS AND EXISTING STRUCTURES AND UTILITIES. SHEETING LEFT IN PLACE SHALL BE CUT OFF NOT LESS THAN 18 INCHES BELOW GROUND SURFACE.

SHEETING AND BRACING NOT NOTED TO BE LEFT IN PLACE MAY BE REMOVED AT THE DISCRETION AND RESPONSIBILITY OF THE CONTRACTOR AFTER BACKFILL HAS BEEN PLACED AND COMPACTED TO A LEVEL AT LEAST TWO (2) FEET ABOVE THE TOP OF THE PIPE. IN NO CASE SHALL SHEETING BE PULLED IN INCREMENTS EXCEEDING THREE (3) TO FOUR (4) FEET IN ORDER TO AVOID THE DANGER OF BREAKING THE PIPE DUE TO THE WEIGHT OF THE BACKFILL. UPON REMOVAL OF SHEETING AND BRACING, VOIDS LEFT DUE TO SUCH REMOVAL SHALL IMMEDIATELY BE FILLED AND THE BACKFILL RECOMPACTED.

WHERE IT IS NECESSARY TO DRIVE SHEETING BELOW THE CENTERLINE OF THE PIPE, IT SHALL BE DRIVEN BELOW THE BOTTOM OF THE PIPE AS DETERMINED BY THE CITY, AND THAT SHEETING BELOW A POINT TWO FEET ABOVE THE TOP OF THE PIPE SHALL BE LEFT IN PLACE.

(ORD.18-104. PASSED 8-21-18; ORD. 24-151. PASSED 1-7-25.)

4.13 PIPE EMBEDMENT

THE BEDDING MATERIAL SHALL BE SHAPED TO CONFORM TO THE BOTTOM QUADRANT OF THE PIPE BARREL. THE CITY RESERVES THE PRIVILEGE OF ALTERING THE TYPE OF BEDDING MATERIAL AND REGULATING THE EXACT GRADING OF THE BEDDING MATERIAL DEPENDING UPON THE WATER CHARACTERISTICS OF THE TRENCH. AT LEAST THE MINIMUM OF BEDDING SHALL BE PROVIDED UNDER PIPE BELLS.

AFTER THE PIPE IS LAID, THE BEDDING MATERIAL SHALL BE SHOVEL PLACED AND TAMPED TO FILL ALL VOIDS. THE BEDDING MATERIAL SHALL BE PLACED IN SIX (6) INCH LAYERS. LOOSE MEASUREMENT, AND COMPACTED BY HAND OR MECHANICAL TAMPING TO SECURE A GOOD COMPACTION. ALL EMBEDMENT MATERIAL SHALL BE CAREFULLY PLACED AND TAMPED SO AS NOT TO DAMAGE OR DISPLACE THE JOINTS OR PIPE, AND NO MATERIAL SHALL BE DROPPED DIRECTLY ON THE PIPE. THE MATERIAL SHALL BE COMPACTED TO NOT LESS THAN 98% OF MAXIMUM DENSITY AS DETERMINED IN ACCORDANCE WITH ASTM D1557 (MODIFIED PROCTOR).

AN EXCEPTION SHALL BE MADE WHERE CONCRETE ENCASEMENT IS NOTED ON THE DRAWINGS. CONCRETE ENCASEMENT SHALL BE SQUARE IN CROSS SECTION, SHALL HAVE A MINIMUM THICKNESS OF SIX (6) INCHES AT PIPE BELLS, AND SHALL BE OF THE LENGTH AS SHOWN ON PLAN/PROFILE DRAWINGS OR AS REQUIRED. SEE FIGURE 4.17.1.

THIS SHALL INCLUDE THE MATERIALS AND CONSTRUCTION OF CONCRETE PIPE CRADLES TO SUPPORT THE NEW PIPES WHERE THEY CROSS OVER EXISTING PIPES IN THE LOCATIONS NOTED ON THE DRAWINGS. DAMAGE TO EXISTING PIPES RESULTING FROM THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED OR REPLACEMENTS MADE TO THE SATISFACTION OF THE CITY BY AND AT THE EXPENSE OF THE CONTRACTOR. SEE FIGURE 4.17.2.

IF THE MATERIAL FOUND AT THE SPECIFIED DEPTHS OF EXCAVATION BELOW THE ELEVATION OF THE OUTSIDE BOTTOM OF THE PIPE BARREL IS NOT SUITABLE TO PROVIDE ADEQUATE FOUNDATION FOR THE PIPE, A FURTHER DEPTH SHALL BE EXCAVATED AND FILLED WITH GRANULAR BEDDING MATERIAL APPROVED BY THE CITY.

(ORD.18-104. PASSED 8-21-18; ORD. 24-151. PASSED 1-7-25.)

4.14 PIPE LAYING

PIPES SHALL BE LAID WITH THEIR FULL LENGTHS TRUE TO LINE AND GRADE WITH THE AID OF BATTERBOARDS, GRADE POLE AND GRADE STRING, OR OTHER METHOD APPROVED BY THE CITY, AND SHALL REST ON THE BEDDING MATERIAL PROVIDED. PIPE SLOPE SHALL BE AS DESIGNED AND APPROVED BY THE CITY OF HUDSON.

WHEN BATTERBOARDS ARE USED, NOT LESS THAN THREE, SET AT 25-FOOT INTERVALS, SHALL BE INSTALLED AND MAINTAINED IN PROPER POSITION AT ALL TIMES AS A CHECK ON THE ACCURACY OF THE GRADE LINE.

WHEN LASER BEAM EQUIPMENT IS USED, IT SHALL BE CHECKED A MINIMUM OF TWICE DAILY, ONCE IN THE A.M. AND ONCE IN THE P.M., IN THE PRESENCE OF THE CITY TO VERIFY THAT THE EQUIPMENT IS MAINTAINING THE ESTABLISHED LINE AND GRADE. IN ADDITION, WHEN TEMPERATURE AND OTHER ATMOSPHERIC CONDITIONS PREVENT THE LASER BEAM FROM MAINTAINING GRADE, THE CONTRACTOR SHALL PROVIDE ADDITIONAL VENTILATION THROUGH THE PIPELINE BY THE USE OF BLOWERS AS RECOMMENDED BY THE EQUIPMENT MANUFACTURER OR AS DIRECTED BY THE CITY.

REGARDLESS OF THE METHOD USED, THE CITY SHALL BE IMMEDIATELY NOTIFIED OF ANY MISALIGNMENT OF THE PIPE WHEN LAID IN ACCORDANCE WITH ESTABLISHED CUTS OR ELEVATIONS.

PIPES AND MANHOLES SHALL BE INSTALLED AT A MINIMUM TEN (10) FOOT HORIZONTAL DISTANCE FROM WATER MAINS, AND PIPES LAID AT A MINIMUM 18 INCHES VERTICAL DISTANCE FROM WATER MAINS AT THEIR CROSSING, BOTH AS MEASURED BETWEEN THE OUTSIDE OF THE PIPE WALLS. AT CROSSINGS, ONE FULL LENGTH OF PIPE SHALL BE INSTALLED SO BOTH JOINTS WILL BE AS FAR FROM THE MAIN AS POSSIBLE. IF NECESSARY, EXISTING WATER MAINS SHALL BE RELOCATED UNDER PROPOSED SEWERS. SEE FIGURE 4.18.1.

(ORD.18-104. PASSED 8-21-18; ORD. 24-151. PASSED 1-7-25.)

4.15 BACKFILLING

BACKFILL SHALL INCLUDE THE MATERIAL PLACED ABOVE THE PIPE EMBEDMENT MATERIAL PREVIOUSLY SPECIFIED. NO HEAVY OR LARGE QUANTITIES OF BACKFILL MATERIAL SHALL BE PLACED OVER THE PIPE UNTIL BACKFILLING HAS PROGRESSED TO A DEPTH OF AT LEAST THREE (3) FEET OVER THE TOP OF THE PIPE BARREL. ALL BACKFILL MATERIAL SHALL BE CAREFULLY PLACED SO AS NOT TO DAMAGE THE JOINTS OR DISPLACE THE PIPE. BACKFILLING SHALL IMMEDIATELY FOLLOW TRENCHING AND PIPE LAYING OPERATIONS TO REDUCE THE POSSIBILITY OF DAMAGE TO PAVEMENTS AND UTILITIES.

TRENCHES WITHIN EXISTING AND PROPOSED STONED STREETS, ALLEYS, DRIVEWAYS, STONED PARKING AREAS AND CONCRETE OR BRICK SIDEWALKS SHALL BE BACKFILLED WITH GRANULAR MATERIAL. THE MATERIAL SHALL BE PLACED AND COMPACTED TO NOT LESS THAN 100% OF MAXIMUM DENSITY AS DETERMINED IN ACCORDANCE WITH ASTM D1557 (MODIFIED PROCTOR). CONTRACTOR SHALL PROVIDE A CERTIFIED PROCTOR TEST RESULT FROM LIMESTONE SUPPLIER WITH THE SHOP DRAWINGS, PRIOR TO STONE BEING DELIVERED TO THE PROJECT SITE.

WHERE SEWERS ARE INSTALLED ALONG AND ACROSS EXISTING AND PROPOSED PAVED OR STONED STREETS, ALLEYS, DRIVEWAYS AND PARKING AREAS, THE SPECIFIED COMPACTED GRANULAR MATERIAL SHALL ALSO BE PROVIDED FOR BACKFILLING ANY PORTION OF THE TRENCHES FALLING WITHIN THAT AREA BELOW A LINE DRAWN AT 45 DEGREES TO THE HORIZONTAL FROM THE SURFACE AT THE EDGE OF THE PAVEMENT OR BACK OF CURB AND ABOVE THE HORIZONTAL PLANE OF THE PIPE EMBEDMENT MATERIAL. SEE FIGURE 4.19.1.

FOR TRENCHES WITHIN EXISTING OR PROPOSED PAVED STREETS, ALLEYS, DRIVEWAYS AND PAVED PARKING AREAS A CONTROLLED DENSITY FILL (C.D.F.) SHALL BE PROVIDED OR BACKFILL AS APPROVED BY THE CITY. THE MIX SHALL BE PLACED IN A USABLE FLUID FORM AND IN UNIFORM VERTICAL LIFTS. DESIGN, FINISHING AND PROTECTION OF THE MATERIAL SHALL BE RECOMMENDED BY THE MANUFACTURER FOR THE APPLICATION. QUALITY CONTROL TEST PROCEDURES OF THE MANUFACTURER SHALL INCLUDE ASTM C138 - TEST FOR UNIT WEIGHT, AND ASTM C39 - TEST FOR COMPRESSIVE STRENGTH. NO COMPACTION IS REQUIRED FOR C.D.F.

TRENCHES WITHIN RAILROAD RIGHT-OF-WAY, EXCEPT FOR LONGITUDINAL OCCUPANCY, SHALL BE BACKFILLED WITH CRUSHED STONE. TRENCHES WHERE SEWERS ARE INSTALLED LONGITUDINAL TO THE RAILROAD TRACKS SHALL BE BACKFILLED PER RAILROAD REQUIREMENTS, LATEST REVISIONS. THE BACKFILL MATERIAL SHALL BE PLACED IN LOOSE SIX (6) INCH LIFTS AND COMPACTED TO AT LEAST 95% OF ITS MAXIMUM DENSITY WITH A MOISTURE CONTENT THAT IS NOT MORE THAN 1% GREATER THAN OR 2% LESS THAN THE OPTIMUM MOISTURE AS DETERMINED IN ACCORDANCE WITH CURRENT ASTM DESIGNATION D - 1557 (MODIFIED PROCTOR). WHEN THE BACKFILL MATERIAL IS WITHIN THREE FEET OF THE SUBGRADE ELEVATION (THE INTERFACE OF THE BALLAST AND THE SUBSOIL), A COMPACTION OF AT LEAST 98% WILL BE REQUIRED. COMPACTION TEST RESULTS CONFIRMING COMPLIANCE MUST BE PROVIDED TO RAILROAD COMPANY'S ENGINEER BY THE CONTRACTOR.

THE CITY MAY REQUIRE CONTRACTOR TO CHECK COMPACTION OF THE BACKFILL AT A LOCATION AND DEPTH DETERMINED BY THE CITY, AT ANY TIME AT NO COST TO CITY. WHERE TRENCHES ARE BACKFILLED WITH GRANULAR MATERIAL, THE CONTRACTOR SHALL REMOVE EXCESS EXCAVATED MATERIAL. ANY EXCESS EXCAVATED SPOIL SHALL BE REMOVED TO AN APPROVED DUMP SITE.

IN ALL PAVED STREETS AND HIGHWAYS, IMMEDIATELY UPON COMPLETION OF OTHER BACKFILLING OPERATIONS AND PRIOR TO THE END OF WORK FOR THAT DAY, A TEMPORARY PAVEMENT AS SPECIFIED IN SECTION 7 - ROADWAY SHALL BE PROVIDED AND SHALL REMAIN IN PLACE AND BE PROPERLY MAINTAINED UNTIL SUCH TIME AS THE PERMANENT PAVEMENTS ARE PLACED. FOR A PROJECT WITH MORE THAN ONE ROAD CROSSING PERMANENT PAVEMENTS SHALL BE PLACED WITHIN TWO WEEKS AFTER COMPLETION OF TESTS AND ACCEPTANCE OF EACH SECTION OF THE STORM SEWER. FOR A SINGLE ROAD CROSSING OR UTILITY REPAIR, PERMANENT PAVEMENTS SHALL BE PLACED WITHIN 48 HOURS AFTER ACCEPTANCE OF THE CROSSING OR REPAIR.

FOR BACKFILLING THE REMAINDER OF THE TRENCHES, AS MUCH OF THE EXCAVATED MATERIAL AS POSSIBLE SHALL BE REPLACED UNTIL BACKFILLING HAS PROGRESSED TO A DEPTH OF AT LEAST 3 FEET OVER THE TOP OF THE PIPE BARREL. THE MATERIAL SHALL BE FINELY DIVIDED FREE OF STONES THREE (3) INCHES OR GREATER IN ANY DIMENSION. NO BOULDERS, ORGANIC MATERIALS OR OTHER HARMFUL DEBRIS SHALL BE USED. THE MATERIAL SHALL BE PLACED IN SIX (6) INCH LAYERS, LOOSE MEASUREMENT, AND COMPACTED BY MECHANICAL TAMPING.

ALSO, IMMEDIATELY UPON COMPLETION OF OTHER BACKFILLING OPERATIONS AND PRIOR TO THE END OF WORK FOR THAT DAY, A TEMPORARY SIDEWALK SHALL BE PROVIDED, AND SHALL REMAIN IN PLACE AND BE PROPERLY MAINTAINED UNTIL SUCH TIME AS THE PERMANENT SIDEWALK IS PLACED. THE TEMPORARY SIDEWALK SHALL CONSIST OF A MINIMUM OF 1-1/2 INCHES OF THE SPECIFIED COMPACTED GRANULAR BACKFILL MATERIAL PLACED TO THE SAME WIDTH AS THE ORIGINAL SIDEWALK, AND SHALL BE FURNISHED, PLACED AND MAINTAINED BY AND AT THE EXPENSE OF THE CONTRACTOR. THE TEMPORARY SIDEWALK SHALL BE RESHAPED AND REGRADED PRIOR TO THE INSTALLATION OF PERMANENT SIDEWALK.

AFTER BACKFILLING, ALONG WEED OR UNSODDED AREAS THE MATERIAL SHALL BE GRADED TO CONFORM TO THE ORIGINAL GROUND PROFILE. IN LAWN AREAS AND IN FIELDS USED FOR FARMING, ALL TOPSOIL REMOVED AND STOCKPILED PRIOR TO TRENCHING SHALL BE REPLACED AND GRADED TO CONFORM TO THE ORIGINAL GROUND PROFILE. IN LAWNS AND OTHER AREAS WHERE GRASS EXISTS, AS DETERMINED BY THE OWNER OR THE CITY, THE AREA SHALL BE GRADED AND MADE READY FOR SEEDING AS SPECIFIED IN SECTION 1. IN LAWN AREAS, IF THE EXISTING REPLACED TOPSOIL DOES NOT PROVIDE THE REQUIRED FOUR (4) INCH MINIMUM DEPTH AS SPECIFIED IN SECTION 1, THE CONTRACTOR SHALL PROVIDE ADDITIONAL TOPSOIL AT HIS EXPENSE.

THE CONTRACTOR SHALL BE REQUIRED TO REGRADE AND RESHAPE ALL ROAD SHOULDERS AND ALL DITCHES OR SWALES FROM EXISTING HIGH POINTS TO EXISTING DRAINAGE STRUCTURES OR OTHER OUTLETS ALONG THE PROPOSED IMPROVEMENT. THE CONTRACTOR AND THE CITY SHALL MUTUALLY AGREE AND ESTABLISH ALL DITCH GRADES TO BE RESTORED PRIOR TO CONSTRUCTION. DITCHES, WHICH ARE RESHAPED, SHALL HAVE REASONABLE SIDE SLOPES. VERTICAL OR STEEP SLOPES WILL NOT BE PERMITTED.

(ORD.18-104. PASSED 8-21-18; ORD. 24-151. PASSED 1-7-25.)

4.16 CONNECTIONS TO STRUCTURES AND PIPES

WHEN REQUIRED, NEW AND EXISTING SEWERS SHALL BE CONNECTED TO STRUCTURES THROUGH STUBS, WALL CASTINGS, WALL SLEEVES, ETC. PROVIDED FOR SAME OR A CORED OPENING SHALL BE MADE AT THE PROPER ELEVATION IN THE WALL OF THE STRUCTURE, THE PIPE INSERTED AND THE OPENING AROUND THE PIPE NEATLY AND PERMANENTLY CLOSED WITH A NON-SHRINKING AND NON-CORROSIVE GROUT. NO STRAIGHT-LINE SAW CUTTING AND/OR HAMMERING OF OPENINGS WILL BE ALLOWED. GROUT SHALL BE, FIVE STAR GROUT AS MANUFACTURED BY FIVE STAR PRODUCTS, INC.; SEALTIGHT 588-10K GROUT AS MANUFACTURED BY W.R. MEADOWS, INC.; SET GROUT AS MANUFACTURED BY MASTER BUILDERS; OR EQUAL. ALL CONNECTIONS SHALL BE WATERTIGHT. WHERE NECESSARY, THE BOTTOMS OF EXISTING STRUCTURES SHALL BE RESHAPED TO GIVE A SMOOTH FLOW IN ALL DIRECTIONS.

CONNECTIONS TO UNLIKE TYPES AND SIZES OF PIPE SHALL BE ACCOMPLISHED USING THE PROPER ADAPTER AND/OR CONNECTOR AS MANUFACTURED BY FERNCO, INC.

(ORD.18-104. PASSED 8-21-18.)

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4.17 ROCK EXCAVATION

A. GENERAL - THE TERM "ROCK EXCAVATION" SHALL INCLUDE THE REMOVAL OF SUCH MATERIAL AS CANNOT BE BROKEN AND REMOVED BY ORDINARY EXCAVATING EQUIPMENT. THE DEFINITION OF ORDINARY EXCAVATING EQUIPMENT DOES NOT INCLUDE RIPPERS OR POWER OPERATED JACK HAMMERS. DISINTEGRATED, WEATHERED, ROTTEN AND LOOSE ROCK PARTICLES CAPABLE OF REMOVAL BY ORDINARY METHODS ARE NOT INCLUDED WITHIN THE SCOPE OF ROCK EXCAVATION.

B. EXCAVATION - EXCAVATION SHALL BE CARRIED TO A SUFFICIENT DEPTH TO PROVIDE FOR A CUSHIONING LAYER OF BEDDING MATERIAL AS PREVIOUSLY SPECIFIED IN ITEM 4.12. WIDTH OF TRENCH SHALL BE NOT MORE THAN PREVIOUSLY SPECIFIED FOR THE RESPECTIVE TYPE OF PIPE.

EXCAVATION FOR STRUCTURES SHALL EXTEND TO A PLANE FOUR (4) INCHES BELOW THE UNDERSIDE OF THE CONCRETE FOUNDATIONS AND BE CONFINED TO LIMITS TWO FEET BEYOND THE OUTSIDE OF SUCH FOUNDATIONS.

C. DISPOSAL OF ROCK - EXCEPT UNDER SPECIAL PERMISSION FROM THE ENGINEER, ROCK REMOVED BY EXCAVATION SHALL NOT BE USED FOR BACKFILL, BUT SHALL BE DISPOSED OF BY THE CONTRACTOR OFF THE PROJECT SITE. NECESSARY BEDDING AND BACKFILL FOR TRENCHES AND OTHER EXCAVATIONS IN ROCK EXCAVATION SHALL BE APPROVED BY THE CITY.

D. METHOD - WHERE ROCK IS ENCOUNTERED WHICH CANNOT BE REMOVED BY ORDINARY EXCAVATING METHODS, ROCK EXCAVATION, UNLESS OTHERWISE SPECIFIED, MAY BE ACCOMPLISHED BY THE USE OF EXPLOSIVES, WITH THE APPROVAL OF THE CITY MANAGER AND SUBJECT TO COMPLIANCE WITH ALL FEDERAL, STATE AND LOCAL LAWS AND THE FOLLOWING REQUIREMENTS:

1) ALL REQUIRED PERMITS SHALL BE SECURED BY THE CONTRACTOR WELL IN ADVANCE OF SUCH OPERATIONS.

2) THE TRANSPORTING, HANDLING AND FIRING OF EXPLOSIVES SHALL BE PERFORMED BY SOMEONE THOROUGHLY FAMILIAR, EXPERIENCED AND, IF APPLICABLE, LICENSED IN THIS TYPE OF WORK, PREFERABLY A REPRESENTATIVE OF THE MANUFACTURER OF THE EXPLOSIVES TO BE USED.

3) PRIOR TO REMOVING ROCK IN ANY AREA, THE TYPE OF EXPLOSIVES TO BE USED, THE NUMBER, DEPTH AND LOADING OF HOLES TO BE DETONATED AT ANY ONE TIME; AND ANY SPECIAL PRECAUTIONS TO BE OBSERVED SHALL BE DETERMINED AT A CONFERENCE BETWEEN REPRESENTATIVES OF THE OWNER, THE CITY, THE CONTRACTOR, THE CONTRACTORS INSURANCE COMPANY AND THE PERSON DIRECTLY RESPONSIBLE FOR DETONATION. THE PROCEDURE THEREAFTER FOLLOWED IN THAT AREA SHALL CONFORM TO THE DECISIONS REACHED; SUBJECT TO ANY MODIFICATIONS WHICH MAY BE REQUIRED BECAUSE OF UNSATISFACTORY OR UNSAFE RESULTS OR THE PROCEDURE AGREED UPON.

4) SUITABLE TIMBER MATS OR OTHER COVERINGS SHALL BE PROVIDED TO CONFINE ALL MATERIALS LIFTED BY BLASTING WITHIN THE LIMITS OF THE EXCAVATION.

5) ALL PUBLIC AND PRIVATE UTILITY COMPANIES HAVING FACILITIES IN THE VICINITY SHALL BE NOTIFIED BY THE CONTRACTOR OF THE LOCATION AND TIME OF CONTEMPLATED DETONATION IN SUFFICIENT TIME TO ALLOW THEM TO PROTECT THEIR FACILITIES. LIKEWISE, WHERE OPERATIONS ARE TO BE CARRIED ON IN ANY LOCATION WHERE TRAFFIC ON STREETS OR HIGHWAYS MAY BE AFFECTED, PROPER NOTICE SHALL BE GIVEN THE LOCAL POLICE DEPARTMENT.

6) FOR PURPOSE OF PROTECTING THE GENERAL PUBLIC, THE CONTRACTOR AND THE OWNER, THE UTMOST COOPERATION WILL BE REQUIRED BETWEEN THE CONTRACTOR AND ALL OTHER INTERESTED PARTIES. ALL SAFETY PRECAUTIONS SHALL BE STRICTLY ENFORCED.

7) SHOULD PERMIT LIMITATIONS OR THE NEARNESS OF EXISTING STRUCTURES AND UTILITIES PROHIBIT THE USE OF EXPLOSIVES, ROCK EXCAVATION SHALL BE PERFORMED BY AN APPROVED ALTERNATE METHOD.

8) SEISMOGRAPHIC MONITORING, PRE-BLASTING AND POST-BLASTING INSPECTIONS SHALL BE PERFORMED ON THOSE STRUCTURES NEARBY TO AVOID FRAUDULENT DAMAGE CLAIMS.

E. DAMAGE TO EXISTING FACILITIES - THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DAMAGE TO EXISTING STRUCTURES, PIPING, SEWERS, DRAINS, CABLES, CONDUITS, EQUIPMENT AND APPURTENANCES RESULTING FROM HIS ROCK EXCAVATION OPERATIONS, AND SHALL REPAIR SAME TO THE SATISFACTION OF THE OWNER AND THE CITY.

(ORD.18-104. PASSED 8-21-18; ORD. 24-151. PASSED 1-7-25.)

III. TESTING

4.18 TESTING FOR DEFLECTION (STORM SEWERS)

ALL STORM SEWERS OF PVC PLASTIC PIPE OR POLYPROPYLENE PIPE SHALL BE TESTED FOR A MAXIMUM DEFLECTION OF 5% OF THE PIPE AVERAGE INSIDE DIAMETER NOT LESS THAN 30 DAYS AFTER FINAL FULL BACKFILL, HAS BEEN PLACED, AS DETERMINED BY THE CITY.

SUCH TESTS SHALL BE CONDUCTED WITH A REPRESENTATIVE OF THE ENGINEER PRESENT. ALL PIPES EXCEEDING A DEFLECTION OF 5% OF THE AVERAGE INSIDE DIAMETER SHALL BE REPAIRED OR REPLACED AND THEN RETESTED UNTIL SATISFACTORY TEST RESULTS ARE OBTAINED. THE CONTRACTOR SHALL PAY ALL COSTS FOR THE TESTS.

THE TESTS SHALL BE CONDUCTED USING ELECTRONIC EQUIPMENT SPECIFICALLY DESIGNED FOR MEASURING AND RECORDING DEFLECTION IN FLEXIBLE PIPE OR BY THE USE OF AN APPROVED DEFLECTION PROBE, HAVING A DIAMETER EQUAL TO 95% OF THE AVERAGE INSIDE DIAMETER OF THE PIPE BEING TESTED, PULLED THROUGH THE SEWER LINE. IF THE DEFLECTION PROBE IS USED, TEST SHALL BE PERFORMED WITHOUT MECHANICAL PULLING DEVICES, AND A PROVING RING, HAVING AN I.D. EQUAL TO THE O.D. OF THE PROBE, SHALL BE AVAILABLE AT THE TIME THE PROBE IS USED TO VERIFY THAT THE PROBE HAS THE PROPER DIAMETER BY INSERTING THE PROBE INTO THE RING.

THE DEFLECTION PROBE SHALL BE AS AVAILABLE FROM WORTCO, INC.; BURKE CONCRETE ACCESSORIES, INC.; OR EQUAL, AND SHALL BE DESIGNED SPECIFICALLY FOR TESTING THE DEFLECTION OF THE TYPE AND SIZE OF PIPE SUBJECT TO TEST. THE PROBE SHALL INCORPORATE AN ODD NUMBER (NO LESS THAN 9) OF 1/2" X 3/16" BAR STOCK RUNNERS EQUALLY SPACED ON EDGE AROUND AND WELDED TO THE CIRCUMFERENCE OF TWO MINIMUM 1/4 INCH THICK CIRCULAR STEEL PLATES. THE DIAMETER OF THE PROBE FOR THE TYPE AND NOMINAL SIZE OF THE PIPE TO BE TESTED SHALL BE EQUAL TO 95% OF THE AVERAGE INSIDE DIAMETER OF THE RESPECTIVE PIPE AS SPECIFICALLY GIVEN OR DETERMINED BY THE ENGINEER FROM INFORMATION GIVEN IN THE APPROPRIATE ASTM STANDARD FOR THE PIPE.

THE DISTANCE BETWEEN PLATES, OUT-TO-OUT, SHALL NOT BE LESS THAN TWO (2) INCHES SMALLER THAN THE NOMINAL DIAMETER OF THE PIPE TO BE TESTED. THE RUNNERS SHALL EXTEND APPROXIMATELY 1-1/2 INCHES BEYOND EACH PLATE, BEING BENT INWARD FOR THIS DISTANCE AT APPROXIMATELY 30°. A CONTINUOUS 3/4 INCH THREADED ROD SHALL BE PROVIDED THROUGH THE CENTER OF THE PLATES, HAVING A HEX NUT DRAWN TIGHT AGAINST THE INSIDE FACE OF EACH PLATE, AND EXTENDING EACH SIDE AS REQUIRED FOR PROVIDING A 3/4 INCH FERRULE LOOP INSERT OR SIMILAR PIECE FOR ATTACHING THE PULLING MEDIUM.

(ORD.18-104. PASSED 8-21-18; ORD. 24-151. PASSED 1-7-25.)

4.19 TESTING FOR LEAKAGE (STORM SEWERS)

A. GENERAL - THE CONTRACTOR SHALL INCLUDE LABOR AND MATERIALS, INCLUDING ANY WATER AND ALL EQUIPMENT, NECESSARY TO COMPLETE THE LEAKAGE TESTS SPECIFIED HEREIN. SUCH TESTS SHALL BE CONDUCTED AFTER TESTING FOR DEFLECTION IS COMPLETE, WHERE APPLICABLE, AND WITH A REPRESENTATIVE OF THE CITY PRESENT, AND HIS JUDGMENT SHALL BE FINAL AS TO THE ACCEPTANCE OF ALL TESTS. LEAKAGE TESTS SHALL BE CONDUCTED ON EACH PIPE SECTION AND MANHOLE.

EACH SECTION OF PIPE SHALL BE TESTED FOR OBSTRUCTIONS PRIOR TO VISUAL TESTING FOR LEAKAGE. EITHER MANDRELS, SOLID CYLINDERS, OR BALLS WITH DIAMETERS OF 95% OF THE PIPE DIAMETER MAY BE USED TO TEST FOR OBSTRUCTIONS. ALL OBSTRUCTIONS SHALL BE REMOVED.

ALL VISIBLE LEAKAGE IN SEWERS AND MANHOLES SHALL BE REPAIRED.

ALL PLUGS USED DURING LEAKAGE TESTS SHALL BE OF A LENGTH AT LEAST EQUAL TO THE DIAMETER OF THE PIPE BEING TESTED TO ASSURE A WATERTIGHT SEAL. PNEUMATIC PLUGS FOR AIR TESTING SHALL BE ABLE TO RESIST INTERNAL TEST PRESSURES WITHOUT REQUIRING EXTERNAL BLOCKING.

B. MANHOLES - EACH MANHOLE SHALL BE TESTED AFTER ASSEMBLY AND AFTER ALL LIFT HOLES HAVE BEEN PLUGGED WITH AN APPROVED NON-SHRINK GROUT, AND, AT THE OPTION OF THE CONTRACTOR, BEFORE OR AFTER BACKFILLING IS COMPLETED.

TESTING SHALL BE BY DRAWING A VACUUM ON THE MANHOLE USING EQUIPMENT SPECIFICALLY DESIGNED FOR SUCH TESTING. ALL PIPES ENTERING THE MANHOLE SHALL BE PLUGGED AND BRACED TO PREVENT BEING DRAWN INTO THE MANHOLE. A TEST HEAD WITH NECESSARY GAUGES AND CONNECTIONS SHALL BE PLACED AT THE INSIDE OF THE TOP OF THE CONE SECTION AND SEALED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. A VACUUM OF TEN (10) INCHES OF MERCURY SHALL THEN BE DRAWN AND THE VACUUM PUMP SHUT OFF. WITH VALVES CLOSED, THE TIME SHALL BE MEASURED FOR THE VACUUM TO DROP TO NINE (9) INCHES. THE TEST SHALL BE SUCCESSFUL IF THE TIME MEASURED MEETS OR EXCEEDS THE VALUES INDICATED IN THE FOLLOWING TABLE:

MINIMUM TEST TIMES IN SECONDSMANHOLE DEPTHMANHOLE DIAMETER48"60"72"MINIMUM TEST TIMES IN SECONDSMANHOLE DEPTHMANHOLE DIAMETER48"60"72"8"20283310"25334112"30394914"35465716"40526518"45597320"506598122"55728924"59789726"648510528"699111330"7498121

IF THE TEST IS UNSUCCESSFUL, NECESSARY REPAIRS SHALL BE MADE AND RETESTING SHALL PROCEED UNTIL A SATISFACTORY TEST IS OBTAINED.

(ORD.18-104. PASSED 8-21-18; ORD. 24-151. PASSED 1-7-25.)

4.20 TELEVISION INSPECTION (STORM SEWERS)

UPON COMPLETION OF LEAKAGE TESTING, SEWERS SHALL BE TELEVISED IN THE PRESENCE OF THE CITY. CLOSED-CIRCUIT TELEVISION INSPECTION SHALL BE PERFORMED FOR ALL NEW MAIN LINE SEWERS. THE CITY SHALL HAVE ACCESS TO VIEW MONITOR AT ALL TIMES, AND SHALL APPROVE PICTURE QUALITY AND DEFINITION.

VIDEO EQUIPMENT FOR TESTING SHALL PRODUCE DVD FORMAT VIDEO DISCS COLOR VIDEO PICTURE AND INCLUDE TWO AUDIO TRACKS. A MOBILE STUDIO FOR ABOVE GROUND CONTROL AND ADJUSTMENT OF EQUIPMENT AND VIEWING THE MONITOR SHALL BE USED, AND SHALL ACCOMMODATE A MINIMUM OF FOUR PEOPLE. THE CAMERA SHALL BE DESIGNED SPECIFICALLY FOR SUCH INSPECTIONS; SHALL BE OPERATIVE IN 100% HUMIDITY CONDITIONS; SHALL HAVE LIGHTING SUITABLE TO ALLOW A CLEAR PICTURE FOR ENTIRE PIPE PERIPHERY AND, SHALL HAVE METERING DEVICE SO LOCATION OF CAMERA AT POINT OF OBSERVATION IS KNOWN AT ALL TIMES.

DURING CLOSED-CIRCUIT TELEVISION INSPECTION, LOCATION OF LEAKAGE, DAMAGE, OBSTRUCTIONS, OR OTHER FAULTS DISCOVERED AND SERVICE CONNECTIONS SHALL BE REFERENCED FROM A STRUCTURE OR TERMINUS AND APPEAR ON THE TAPE AND IN THE REPORT.

DURING VIDEO INSPECTION, ANY LEAKAGE, DAMAGES OR OTHER FAULTS DISCOVERED SHALL BE CORRECTED TO THE SATISFACTION OF THE CITY. AFTER COMPLETION OF REPAIR WORK OR SUBSEQUENT CLEANING OF THE SEWERS, THE SEWERS SHALL BE SUBJECT TO THE CLOSED-CIRCUIT TELEVISION INSPECTION AGAIN TO DOCUMENT THE REPAIRS AND/OR CORRECTIVE MEASURES TAKEN; AND THAT THESE CORRECTIVE MEASURES HAVE ACHIEVED THE RESULTS DESIRED. ALL SUBSEQUENT INSPECTIONS SHALL BE AT THE CONTRACTOR'S COST.

THE CONTRACTOR INSTALLING THE SEWERS SHALL PROVIDE ONE SET OF DVD FORMAT VIDEO FOR EACH INSPECTION ATTEMPT AND ONE COPY OF THE REPORT TO THE CITY. THE REPORT SHALL INCLUDE THE RESULTS OF THE VIDEO INSPECTION AND ACTIONS TAKEN TO CORRECT LEAKAGE, DAMAGE AND OTHER FAULTS DISCOVERED AND REMOVAL OF ANY OBSTRUCTIONS.

(ORD.18-104. PASSED 8-21-18; ORD. 24-151. PASSED 1-7-25.)

4.21 COMPLETION OF TESTS

A. WHEN THE TESTS ON THE SEWER HAVE BEEN SUCCESSFULLY COMPLETED, THE LINE SHALL BE FLUSHED AND CLEANED BEFORE IT IS ACCEPTED.

(ORD.18-104. PASSED 8-21-18; ORD. 24-151. PASSED 1-7-25.)



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6/13/2025

SOL HARRIS/DAY ARCHITECTURE

CHRIST COMMUNITY

CHAPEL

750 W. STREETSBORO STREET
HUDSON, OH 44236

Revisions / Submissions

ID Description Date

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Project Number: 765295

Scale: AS SHOWN

Drawn By: KAN

Checked By: JMS

Date: 06/13/2025

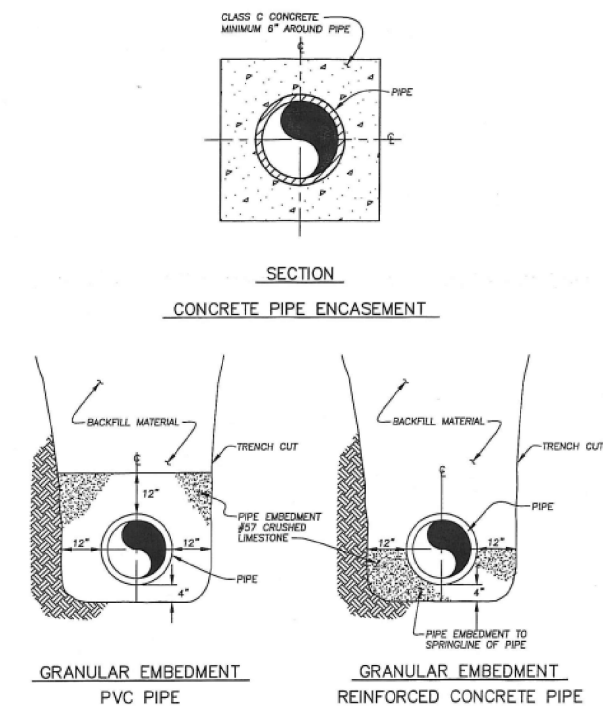
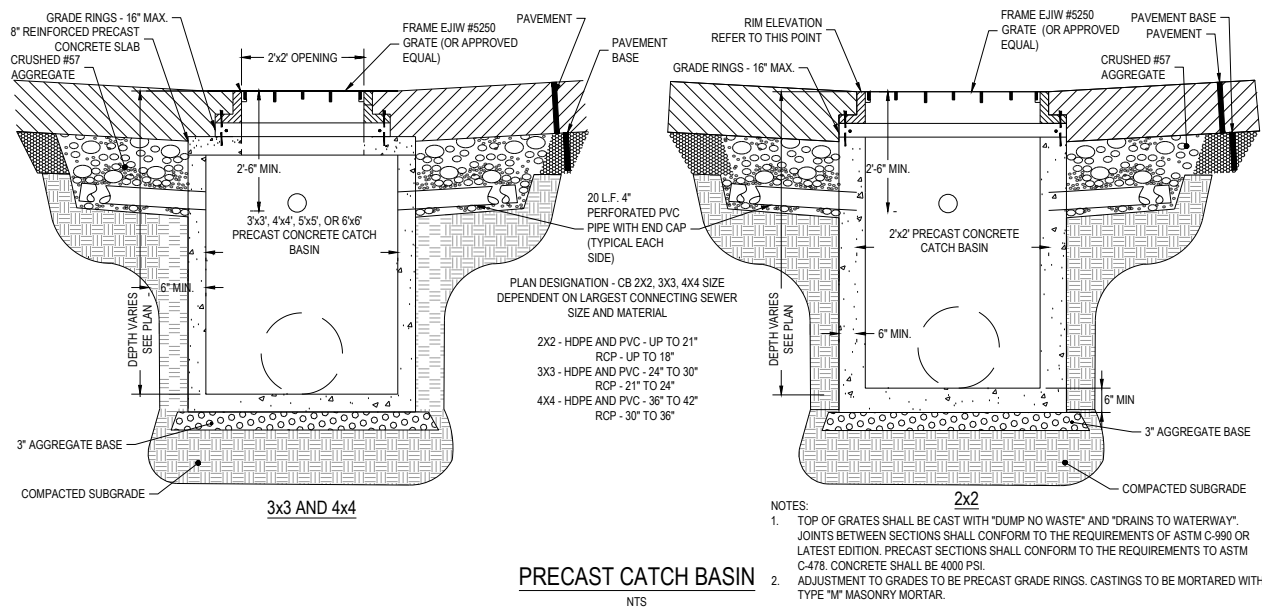
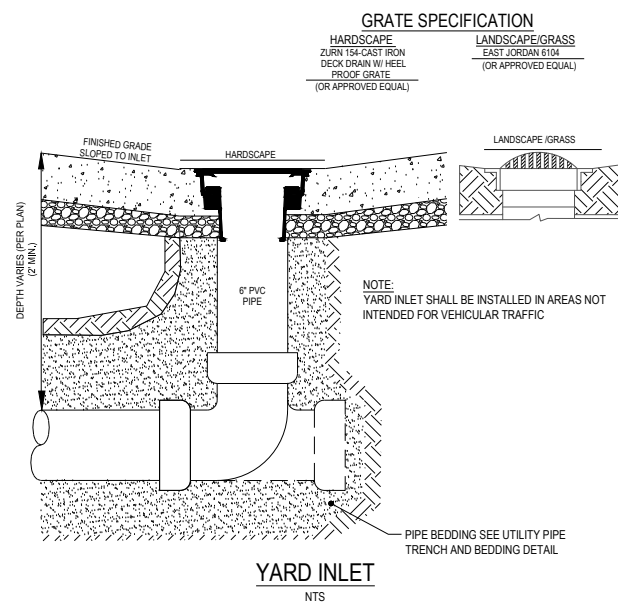
Issue: PERMIT SET

Drawing Title:

STORM DETAILS

C8.5

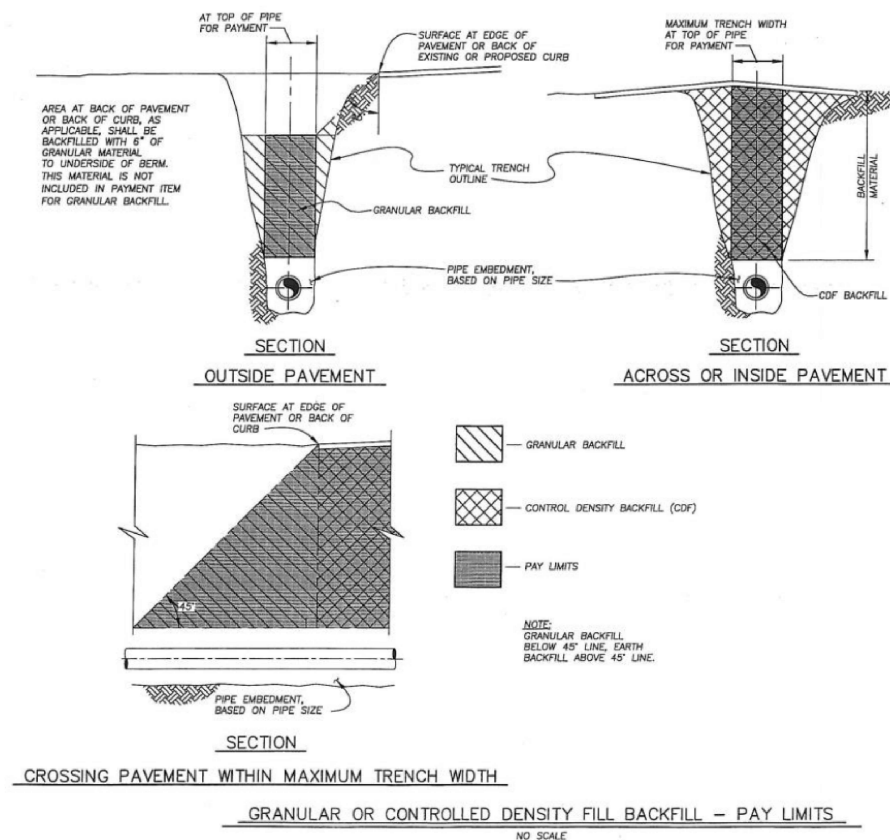
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BEDDING DETAILS
NO SCALE

CONCENCS.DWG 09-15-99

FIG 4.17.1



CONDNBKFL.DWG 09-15-99

FIG 4.19.1



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750 W. STREETSBORO STREET
HUDSON, OH 44236

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ID	Description	Date

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Drawn By: KAN
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Drawing Title:
STORM DETAILS

C8.6

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DEPARTMENT OF SANITARY SEWER SERVICES - SUMMIT COUNTY
STANDARD CONSTRUCTION DRAWINGS AND PROCEDURES

GENERAL NOTES

PERMISSION TO CONSTRUCT SANITARY SEWERS IS GRANTED BY THE STATE OF OHIO ENVIRONMENTAL PROTECTION AGENCY (O.E.P.A.), THE COUNTY OF SUMMIT DEPARTMENT OF SANITARY SEWER SERVICES (D.S.S.S.) AND THE COUNCIL OF THE COUNTY OF SUMMIT WHEN APPROPRIATE. THE D.S.S.S. HAS AUTHORITY TO STOP ANY SANITARY SEWER CONSTRUCTION NOT IN COMPLIANCE WITH CURRENT REGULATIONS AND STANDARDS.

1. THE ATTACHED STANDARD CONSTRUCTION DRAWINGS ARE DERIVED FROM "RECOMMENDED STANDARDS FOR WASTEWATER FACILITIES", LATEST EDITION (KNOWN AS "THE TEN STATES STANDARDS") AS ESTABLISHED BY THE GREAT LAKES UPPER MISSISSIPPI RIVER BOARD OF STATE AND PROVINCIAL PUBLIC HEALTH AND ENVIRONMENTAL MANAGERS (GLUMRB) AND AS AMENDED BY THE SUMMIT COUNTY COMMISSIONERS RESOLUTION NO. 294-75. IF NO APPLICABLE STANDARD IS ATTACHED, THE TEN STATES STANDARDS WILL APPLY.

2. ALL WORK SHALL BE DIRECTED BY A COMPETENT ENGINEER, LICENSED BY THE STATE OF OHIO.
3. ALL CONSTRUCTION SHALL BE INSPECTED BY THE D.S.S.S. AND THE COST OF THAT INSPECTION SHALL BE BORNE BY THE PROJECT.

4. NO SEWER CONSTRUCTION SHALL OCCUR PRIOR TO THE PROJECT PLAN AND SPECIFICATION APPROVAL BY THE D.S.S.S., THE O.E.P.A. AND LOCAL REGULATORY AGENCIES AS APPLICABLE.

5. ANY AND ALL PLAN REVISIONS SHALL BE APPROVED BY THE D.S.S.S. PRIOR TO IMPLEMENTATION.

6. ALL SEWERS 6 THROUGH 12 INCHES IN DIAMETER SHALL BE TESTED BY THE LOW PRESSURE AIR TEST METHOD AS OUTLINED IN THE APPLICABLE ASTM STANDARDS. ALL SEWERS 15 INCHES AND GREATER DIAMETER SHALL BE TESTED BY THE MOST PRACTICAL METHOD. ACCEPTABLE TEST METHODS ARE:

- LOW PRESSURE AIR TEST
- INFILTRATION TEST
- EXFILTRATION TEST

THE TEST METHOD SELECTION SHALL BE BASED ON THE EXISTING GROUND WATER CONDITIONS AND OTHER FACTS PERTINENT TO THE PARTICULAR PROJECT AND SHALL BE APPROVED BY THE ENGINEER.

7. SEWERS SHALL BE INSPECTED IN ACCORDANCE WITH THE STANDARD FOR "INTERNAL VIDEO INSPECTION OF SANITARY SEWERS" AND THE COST OF THAT INSPECTION SHALL BE BORNE BY THE PROJECT.

a. NO "PERMIT TO CONNECT" TO THE PROJECT SHALL BE ISSUED PRIOR TO THE APPROVAL BY D.S.S.S. OF ALL PROJECT WORK, DOCUMENTATION, TESTING, INSPECTION AND MEASUREMENT.

9. NO FOOTER DRAINS, DOWN SPOUTS, SUMP PUMPS OR OTHER CLEAN WATER SOURCES SHALL BE CONNECTED TO THE SANITARY SEWER AS PROHIBITED BY SUMMIT COUNTY ORDINANCE NO. 85-656, AS APPROVED OCTOBER 08, 1985.

10. DEFLECTION TEST:

DEFLECTION TESTS SHALL BE PERFORMED ON ALL FLEXIBLE PIPE, AND SHALL BE CONDUCTED AFTER THE FINAL BACKFILL HAS BEEN IN PLACE AT LEAST 30 DAYS TO PERMIT STABILIZATION OF THE SOIL-PIPE SYSTEM, AS DIRECTED BY THE SUMMIT COUNTY DEPARTMENT OF SANITARY SEWER SERVICES (DSSS). DEFLECTION TESTS SHALL BE PERFORMED IN THE PRESENCE OF AND APPROVED BY THE DSSS. DEFLECTION TESTS SHALL BE PERFORMED WITHOUT MECHANICAL PULLING DEVICES.

NO PIPE SHALL EXCEED A DEFLECTION OF 5 PERCENT OF THE INSIDE DIAMETER. IF THE DEFLECTION EXCEEDS 5 PERCENT THE PIPE SHALL BE EXCAVATED, CORRECTED, AND/OR REPLACED AS NECESSARY. REPLACEMENT AND CORRECTION OF THE PIPE SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THE COUNTY'S STANDARD SPECIFICATIONS AND DETAILS AT THE CONTRACTOR'S EXPENSE.

THE RIGID BALL OR MANDREL USED FOR THE DEFLECTION TEST SHALL HAVE A DIAMETER NOT LESS THAN 95 PERCENT OF THE BASE INSIDE DIAMETER OR AVERAGE INSIDE DIAMETER OF THE PIPE, DEPENDING UPON WHICH IS SPECIFIED IN THE ASTM SPECIFICATION (INCLUDING APPENDICES) TO WHICH THE PIPE IS MANUFACTURED. THE DEVICE USED FOR THE DEFLECTION TEST SHALL BE OF MATERIAL AND CONSTRUCTION APPROPRIATE FOR USE WITH THE PIPE BEING TESTED.

ACCEPTABLE MATERIALS AND SUPPLIERS

ASTM AND AWWA SPECIFICATION NUMBERS REFER TO THE LATEST VERSION THEREOF. OTHER STANDARDS SHALL APPLY BY REFERENCE ALTHOUGH NOT SPECIFICALLY STATED HEREIN.

- CONCRETE PIPE - ASTM C-76, C-443, C-507, C-655
- HANSON PIPE AND PRECAST COMPANY
- INDEPENDENT CONCRETE PIPE COMPANY
- SUPERIOR CONCRETE PIPE COMPANY

- DUCTILE IRON PIPE AND FITTINGS - AWWA C-110, C-115, C-116, C-151; ASTM A-746
- AMERICAN CAST IRON PIPE COMPANY
- CLOW CORPORATION
- U.S. PIPE COMPANY

- PVC PIPE AND FITTINGS - ASTM D-3034, F-679, F-789, F-794, F-949
- CERTAIN-TEED PRODUCTS CORPORATION
- HARCO FITTINGS
- HERITAGE PLASTICS PIPE
- JM EAGLE
- PLASTIC TRENDS

- TRUSS PIPE - ASTM D-2680
- CONTECH

- VITRIFIED CLAY PIPE - ASTM C-301, C-425, C-700
- LOGAN CLAY PIPE
- UNITED PIPE SUPPLY
- SUPERIOR CLAY PRODUCTS

- PRECAST CONCRETE MANHOLES - ASTM C-478, C-497, C-923
- USA PRECAST CONCRETE
- MAC K INDUSTRIES - VALLEY CITY, OHIO
- MICHELBRINK PRECAST CONCRETE

- MANHOLE FRAMES AND COVERS - ASTM A-48
- EJ COMPANY FKA
- NEENAH FOUNDRY

- FLEXIBLE PIPE ENTRIES - ASTM C-923
- KOR - N - SEAL
- A - LOK CORP

- INTERNAL VIDEO INSPECTION
- DYNAMERICAN
- GREAT LAKES
- LAKE COUNTY SEWER
- UNITED SURVEY, INCORPORATED

- PRESSURE PIPE & FITTINGS - ASTM D-1785, D-2241, AWWA C-900, C-905, C-909
- JM EAGLE
- NATIONAL PIPE & PLASTIC

- PE PIPE AND FITTINGS - ASTM D-1248, D-3350, F-714, F-2736, AWWA C-906
- ADVANCED DRAINAGE SYSTEMS
- ISCO INDUSTRIES
- NATIONAL PIPE & PLASTIC

- PUMPS
- FLYGT
- HYDRAMATIC
- MYERS
- ESSCO

INTERNAL VISUAL INSPECTION POLICY AND PROCEDURES

I. GENERAL

A. ALL GRAVITY SANITARY SEWER EXTENSIONS, REPAIRS AND REPLACEMENTS, 8 INCHES AND LARGER IN DIAMETER, SHALL BE SUBJECT TO AN INTERNAL VISUAL INSPECTION AFTER THE COMPLETION OF CONSTRUCTION. THE INTERNAL VISUAL INSPECTION SHALL DOCUMENT THE SEWER CONDITION AND CONSIST OF AN AUDIO-VISUAL RECORDING AND WRITTEN REPORT. THE RECORDING AND REPORT SHALL BE SUBMITTED BY THE INTERNAL INSPECTION CONTRACTOR DIRECTLY TO THE DEPARTMENT OF SANITARY SEWER SERVICES FOR REVIEW, APPROVAL AND PERMANENT RECORD. SUBMITTALS FROM DEVELOPERS, ENGINEERS OR ANY OTHER CONTRACTOR ASSOCIATED WITH THE SEWER INSTALLATION SHALL BE REJECTED.

B. THE CONDITION OF A SEWER SYSTEM SHALL BE PROVEN SATISFACTORY BY THE INTERNAL INSPECTION, AS WELL AS OTHER TESTS REQUIRED BY DSSS AS STATED IN THE GENERAL NOTES, PRIOR TO ITS PLACEMENT INTO SERVICE.

C. IT IS SUGGESTED THAT THE ENTIRE NEW SEWER SYSTEM BE THOROUGHLY CLEANED BY JETTING OR OTHER APPROPRIATE METHOD IMMEDIATELY PRIOR TO THE INSPECTION. SHOULD ANY AMOUNT OF MUD, WATER, DEBRIS, FOREIGN MATERIAL, IDENTIFIABLE OR OTHERWISE, OR OTHER OBSTRUCTIONS TO OR THE VIEWING OF THE SEWER BE FOUND, THE SYSTEM MUST BE RE-CLEANED AND RE-INSPECTED. THE PROJECT INSPECTOR SUPERVISOR SHALL MAKE THE DETERMINATION OF THE SEWER CONDITION, THE NECESSITY OF REPAIR OR REPLACEMENT OF THE SEWER AND THE NECESSITY OF ADDITIONAL INTERNAL INSPECTIONS.

D. UNDER NORMAL CIRCUMSTANCES A DSSS PROJECT INSPECTOR NEED NOT BE PRESENT FOR SEWER CLEANING OR INTERNAL INSPECTION. HOWEVER, THE DSSS PROJECT INSPECTOR SUPERVISOR MUST BE NOTIFIED OF THE INTENT TO PERFORM THE INSPECTION PRIOR TO 9:00 A.M. ON THE DAY PRECEDING THE ANTICIPATED INSPECTION.

E. ALL LINES, STRINGS, ROPES, PLUGS AND PARAPHERNALIA NECESSARY FOR THE PERFORMANCE OF THE INTERNAL VISUAL INSPECTION SHALL BE REMOVED FROM THE SEWER SYSTEM. ANY DAMAGE TO THE NEW OR EXISTING SEWERS, ANY LOSS SUFFERED BY A COUNTY SEWER CUSTOMER AND ANY OTHER INCIDENTAL DAMAGES RESULTING FROM THE INTERNAL INSPECTION OR ITS PARAPHERNALIA SHALL BE REMEDIED BY THE INTERNAL INSPECTION CONTRACTOR.

F. ALL COSTS OF THE INTERNAL INSPECTION, RE-INSPECTION, REPAIRING, CLEANING, ETC. SHALL BE PAID BY THE SEWER INSTALLATION CONTRACTOR PRIOR TO THE SEWER SYSTEM ACCEPTANCE FOR OWNERSHIP BY SUMMIT COUNTY, INCLUDING ANY DAMAGE CLAIMS PER SECTION I-E.

G. ALL INTERNAL INSPECTION SHALL BE DONE BY PERSONS OR FIRMS QUALIFIED AND APPROVED BY DSSS. INTERIOR WORK WILL BE REJECTED. MULTIPLE REJECTIONS WILL BE CAUSE FOR THE SUSPENSION OF ACCEPTANCE BY DSSS OF THE FIRMS WORK UNTIL THE CORRECTION OF THE DEFICIENCIES HAS BEEN PROVEN.

H. THE USE OF AIR, WHETHER PRESSURIZED OR VACUUM, TO REMOVE RESIDUAL WATER OR DEBRIS FROM THE SEWER CLEANING OPERATION IS NOT ACCEPTABLE.

II. VIDEO RECORDING

A. THE VISUAL RECORDING SHALL BE IN COLOR SHOWING CONTINUOUS COVERAGE OF THE SANITARY SEWER FROM ONE MANHOLE TO THE NEXT MANHOLE. THE COLOR SHALL BE A GOOD RENDITION OF THE SEWER INSTALLED IN THE OPINION OF DSSS.

B. THE RECORDING SHALL BE IN GOOD FOCUS AND HAVE ADEQUATE BUT NOT EXCESSIVE LIGHTING. THE LIGHT INTENSITY SHALL BE ADJUSTED TO ASSURE A QUALITY VIEWING OF THE PIPE SURFACE AND OBSERVATION OF CHANGES IN COLOR AND MATERIAL OF THE SURFACE. THIS SECTION DOES NOT REPRESENT APPROVAL OF THE USE OF DIFFERENT COLOR PIPE.

C. THE RECORDING SHALL BE FREE OF VIDEO "NOISE" IN THE FORM OF SNOW, STREAKS, MIGRATING COLOR OR FOCUS PATTERNS OR OTHER ELECTRONIC INTERFERENCE WHICH MAY HINDER OBSERVATION OF THE SANITARY SEWER.

D. THE RECORDING OF ANY SEWER INSPECTION SHALL BE CONTINUOUS WITH NO BREAKS IN THE RECORDING OPERATION.

E. THE RECORDING SHALL SHOW THE ACTUAL LENGTH OF THE SEWER AT THE TOP CENTER OF THE IMAGE. OBSTRUCTION OF THE VIEW OF THE PIPE INVERT SHALL RESULT IN THE REJECTION OF THE RECORDINGS.

F. THE CAMERA DRAG LINE SHALL NOT OBSTRUCT THE VIEW OF THE FLOW LINE OF THE PIPE.

G. THE VIEW SHALL BE CLEAR AND UNOBSTRUCTED BY DIRT, WATER, CONDENSATION OR VAPOR ON THE CAMERA LENS OR IN THE SEWER. SEE SECTION I-C FOR CLEANING AND RE-INSPECTION REQUIREMENTS.

H. THE VISUAL RECORDING SHALL BE AUGMENTED WITH AN AUDIO RECORDING OF THE INSPECTOR'S NARRATION CALLING OUT THE NOMENCLATURE OF THE SEWER SYSTEM, THE PIPE, MANHOLES, WYES, DEBRIS, MUD, WATER, BAD JOINTS, CRACK DAMAGE OR DEFORMED PIPE, JOINTS OR FITTINGS OR ANY OTHER OBSERVATION THAT MAY BE OF USE TO THE ASSESSMENT OF THE SEWER CONDITION. THE NARRATION SHALL BE CLEAR, CONCISE, AND LOUD ENOUGH TO OVERCOME ANY BACKGROUND NOISE FROM MACHINERY OR EQUIPMENT. THE NARRATION SHALL BEGIN WITH THE IDENTIFICATION OF THE PIPE. THE DISTANCE FROM THE DOWNSTREAM MANHOLE OF THE SEWER THEN THE IDENTIFICATION OF EACH AND EVERY OBSERVATION. THE CAMERA SHALL STOP AT EACH OBSERVATION AT THE DISCRETION OF THE RECORDING FIRM AS TO THE SIGNIFICANCE OF THE OBSERVATION AND ITS SEVERITY (OR THE INABILITY TO IDENTIFY) TO WARRANT REVERSING THE CAMERA ONE OR MORE TIMES TO PROVIDE A BETTER VIEW.

I. THE CAMERA VIEW SHALL BE LOOKING UPSTREAM SO THAT THE BUTT-ENDS OF THE PIPE SPIGOT WILL SHOW CLEARLY.

J. THE CAMERA DIRECTION OF TRAVEL SHALL BE UPSTREAM.

K. THE VIDEO INSPECTION SEQUENCE SHALL BE FROM THE LOWEST MANHOLE TO THE FARTHEST UPSTREAM "TERMINAL" MANHOLE. EACH SUBSEQUENT BRANCH SHALL BE RECORDED FROM A MANHOLE ALREADY RECORDED TO THE TERMINAL MANHOLE OF THE BRANCH.

L. AT EACH MANHOLE VIDEO ANNOTATION AND AUDIO NARRATION SHALL BE PRESENTED IDENTIFYING IN A UNIFORM MANNER THE FOLLOWING:

- BEGINNING MANHOLE NUMBER FROM THE APPROVED CONSTRUCTION DRAWING SET
- MANHOLE NUMBER TO WHICH THE CAMERA IS ABOUT TO APPROACH
- PROJECT NAME AND NUMBER
- STREET NAME
- DATE OF RECORDING
- SIZE AND MATERIAL OF PIPE
- EACH PROJECT OR PHASE SHALL BE RECORDED SEPARATELY AND SUPPLIED TO DSSS ON SEPARATE MEDIA. RECORDINGS OF THE SAME PHASE SUBMITTED ON MULTIPLE PIECES OF MEDIA SHALL BE REJECTED UNLESS THE SIZE OF THE PROJECT PREVENTS ITS SUBMITTAL ON ONE SINGLE PIECE OF MEDIA.
- EACH RECORDING SHALL BE MARKED WITH THE FOLLOWING:
 - PROJECT NAME, PHASE AND NUMBER
 - TOWNSHIP OR CITY IN WHICH THE IMPROVEMENT IS LOCATED
 - DEVELOPER'S NAME
 - INSTALLATION CONTRACTOR'S NAME
 - INTERNAL INSPECTION COMPANY NAME, ADDRESS AND TELEPHONE NUMBER
 - DATE OF SUBMITTAL AND DATE OF INSPECTION
 - NUMBER OF PIECES OF MEDIA BEING SUBMITTED.
- EACH RECORDING SUBMITTAL SHALL BE ACCOMPANIED WITH A REPORT DESCRIBING THE MEDIA AND ITS CONTENTS. SEE SECTION III REPORT FOR REQUIREMENTS.

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III. REPORT

A. EACH RECORDING OF AN INTERNAL VISUAL INSPECTION SHALL BE SUBMITTED TO DSSS WITH AN ACCOMPANYING REPORT ON 8-1/2 BY 11 INCH PAPER WITH A COVER SHEET.

B. THE REPORT COVER SHEET FOR A RECORDING SUBMITTAL SHALL INCLUDE THE FOLLOWING:

- PROJECT NAME, PHASE AND NUMBER
- TOWNSHIP OR CITY IN WHICH THE IMPROVEMENT IS LOCATED
- DEVELOPER'S NAME
- INSTALLATION CONTRACTOR'S NAME
- INTERNAL INSPECTION COMPANY NAME, ADDRESS AND TELEPHONE NUMBER
- DATE OF SUBMITTAL AND DATE OF INSPECTION
- NUMBER OF PIECES OF MEDIA SUBMITTED.
- THE REPORT SHALL CONTAIN A MAP OF THE SUBDIVISION, STREETS OR EASEMENTS SHOWING THE GENERAL LAYOUT OF THE IMPROVEMENT. THE MAP SHALL INCLUDE NO LESS THAN:
 - PROJECT NAME, PHASE AND NUMBER
 - TOWNSHIP OR CITY IN WHICH THE IMPROVEMENT IS LOCATED
 - DEVELOPER'S NAME
 - STREET NAMES AND RIGHTS-OF-WAY IDENTIFICATIONS MATCHING THE NAMES ON THE APPROVED CONSTRUCTION DRAWING SET.
- NORTH ARROW
- SCALE
- MANHOLE NUMBERS OR NAMES FROM THE APPROVED CONSTRUCTION DRAWING SET
- INTENDED FLOW DIRECTIONAL ARROWS.
- THE REPORT SHALL INCLUDE A SEPARATE SHEET FOR EACH SEWER (MANHOLE TO MANHOLE) CONTAINING DETAILED INFORMATION OF THAT SPECIFIC SEWER. EACH SHEET SHALL INCLUDE NO LESS THAN:
 - INSPECTION COMPANY NAME
 - PROJECT NAME, PHASE AND NUMBER
 - TOWNSHIP OR CITY IN WHICH THE IMPROVEMENT IS LOCATED
 - INTERNAL INSPECTION MEDIA
 - DATE OF THE INTERNAL INSPECTION
 - SIZE AND MATERIAL OF SEWER PIPE
 - INSPECTION BEGINNING AND ENDING CONSTRUCTION STATION NUMBERS
 - INSPECTION BEGINNING AND ENDING MANHOLE NAMES OR NUMBERS, FROM THE MAP AND THE APPROVED CONSTRUCTION DRAWING SET
 - TOTAL LENGTH OF THE SEWER PIPE, IN FEET.
- THE SPECIFIC INFORMATION TO BE INCLUDED FOR EACH SEWER SHALL BE IN A COLUMNAR TABULAR FORM INDICATING THE DISTANCE FROM THE PREVIOUS MANHOLE AND A DESCRIPTION OF EACH AND EVERY OBSERVATION. THESE COLUMNS SHALL BE MARKED TO INDICATE EACH AND EVERY OBSERVATION OF THE FOLLOWING CONDITIONS AT A MINIMUM:
 - BEGINNING MANHOLE IDENTIFICATION NAME OR NUMBER
 - SERVICE CONNECTION CALLED AS EITHER LEFT OR RIGHT OR BY "O'CLOCK" ONLY
 - ABNORMAL PIPE JOINTS SUCH AS OPEN OR PARTIALLY OPEN, CRACKED, EXCESSIVE GLUE, GASKET EXPOSURE, LEAKING, DEFECTS
 - ABNORMAL PIPE SUCH AS CRACKED, LEAKING, DAMAGED, DEFLECTED
 - OBSTRUCTIONS SUCH AS MUD, STONES, LEAVES, PAPER, TOOLS
 - STANDING WATER STARTING POINT
 - STANDING WATER ENDING POINT
 - SUBMERGENCE OF CAMERA
 - BLOCKED PIPE PREVENTING CAMERA TRAVEL
 - CHANGE OF PIPE MATERIAL OR COLOR
 - WATER VAPOR (SEE SECTION II-G)
 - OTHER EVENTS EITHER ORDINARY OR EXTRA-ORDINARY
 - ENDING MANHOLE IDENTIFICATION NAME OR NUMBER.

INFILTRATION/EXFILTRATION TEST PROCEDURE

The Contractor shall conduct tests to determine the water tightness of the gravity sewer when completed. The tests shall be observed by the Engineer, but the Contractor shall furnish all labor, equipment and materials required in connection herewith.

It is agreed that the sewer shall be tested in sections, each section extending between two adjacent manholes or from the end of the sewer to nearest manhole. The Contractor may elect to use either an infiltration test, an exfiltration test, or the low pressure air test (see Sheet 6), with the approval of the Summit County Department of Sanitary Sewer Services.

A. Infiltration Test

Each section under test shall be covered with not less than two (2) feet of water above the top of the pipe at the highest point. The infiltration will be measured by means of weir located in the downstream manhole. The above head of two (2) feet shall be maintained for a period of not less than twenty-four (24) hours before the weir measurements are made.

B. Exfiltration Test

The sewer at the upstream side of the lower manhole and the upstream side of the upper manhole in each section shall be closed with a watertight bulkhead and the sewer filled with water until the water elevation in the upstream manhole is not less than two (2) feet above the top of the sewer pipe or two (2) feet above ground water elevation in the trench, whichever is higher. The exfiltration will be determined by measuring the amount of water required to maintain the above stated water elevation for a period of one (1) hour from the start of the test. The entire length of section to be tested shall be filled and maintained full of water for a period of approximately twenty-four (24) hours prior to the start of the test.

STANDARD DETAIL DWG. NO. 5A DEPARTMENT OF SANITARY SEWER SERVICES INFILTRATION EXFILTRATION TEST PROCEDURE APPROVED BY: <i>[Signature]</i> PE DEPUTY DIRECTOR DATE 04/18/23

C. Allowable Infiltration or Exfiltration

The amount of infiltration or exfiltration shall not exceed 100 gallons per inch of pipe diameter per twenty-four (24) hours per mile of sewer in each and every section tested in accordance with the above.

D. Testing Requirements

In the event the allowable leakage rates are not met, the Contractor shall determine the location(s) where excess water is entering the sewer or leaving the sewer. The sewer and/or the manholes shall be repaired in manner satisfactory to the Summit County Department of Sanitary Sewer Services and retested until the leakage in the sewer is within the allowable limits.

The Contractor shall include in the price bid per lineal foot of sewer, the cost of all bulkheads, plugs, pipe stoppers, pumps, water, wyes, accessories, labor, delay and any other items of cost necessary for the performance and the completion of the required leakage tests and for the cost of the any repairs or adjustments which may be necessary to make the sewer conform to the required allowable leakage rates (for public projects only).

All leakage test shall be conducted under the supervision of the Summit County Department of Sanitary Sewer Services.

It is understood that each section, as above described, must be tested under the supervision of the Summit County Department of Sanitary Sewer Services for conformity to these requirements before such section or sections are included in any current or final estimate for payment to the Contractor, (for public projects only). It is further understood that, if the leakage does not come within the limits specified, the Contractor will be required to do such work as may be necessary in order to insure conformity even to the extent of reconstructing the defective section or sections.

STANDARD DETAIL DWG. NO. 5B DEPARTMENT OF SANITARY SEWER SERVICES INFILTRATION EXFILTRATION TEST PROCEDURE APPROVED BY: <i>[Signature]</i> PE DEPUTY DIRECTOR DATE 04/18/23

LOW PRESSURE AIR TEST PROCEDURE

In lieu of performing an infiltration or exfiltration test to determine the water tightness of the sewer, the Contractor may elect to perform a low pressure air test by the Ramseler procedure, as recommended by the National Clay Pipe Institute (NCPI).

Ramseler's method of conducting acceptance tests may be separated into two parts, one having to do with field procedure and the other having to do with the determination of pressure holding time.

Field Procedures

- Clean pipe to be tested by propelling snug fitting inflated rubber ball through the pipe with water, by jetting, or by other method approved by the Summit County Department of Sanitary Sewer Services.
- Plug all pipe outlets with suitable test plugs. Brace each plug securely.
- If the pipe to be tested is submerged in ground water, insert a pipe probe, by boring or jetting, into the backfill material adjacent to the center of the pipe, and determine the pressure in the probe when air passes slowly through it. This is the back pressure due to ground water submergence over the end of the probe. All gauge pressures in the test should be increased by this amount.

In ground water conditions, the standard air test is not reliable if adjustments are not made. The following standard should be followed where applicable. For every foot of water over the top of the sanitary sewer 0.4333 PSI should be added to our standard 4.0 PSI.

Where heavy ground water conditions prevail, contractor should be notified that he may air test at 4.0 PSI immediately after a run is completed (M.H. to M.H.), while his pumps are still operating, holding ground water below sanitary sewer), otherwise, 0.4333 PSI per foot of water above sanitary sewer will be added when air test is performed at a later date.

testing requirements before it is accepted by DSSS and/or, on public projects, is included in any current or final estimate for payment to the Contractor.

SANITARY FORCE MAIN TESTING AND PUMP STATIONS

Sanitary force mains shall be subject to post-construction leakage and pressure tests prior to acceptance by the DSSS. Tests shall conform to appropriate ASTM testing standards based upon system design pressures and operating conditions, and specific force main material type. Necessary repairs and replacements shall be the responsibility of the Contractor.

Site tests for emergency generators, where required, shall include a full rated load test of two (2) hours duration utilizing a resistive load bank furnished by the generator set manufacturer, and conducted by the generator set manufacturer's representative in accordance with the manufacturer's standard procedures and requirements.

STANDARD DETAIL DWG. NO. 6B DEPARTMENT OF SANITARY SEWER SERVICES LOW PRESSURE AIR TEST PROCEDURES AND FORCE MAIN TESTING APPROVED BY: <i>[Signature]</i> PE DEPUTY DIRECTOR DATE 04/18/23
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SOL HARRIS/DAY ARCHITECTURE

CHRIST COMMUNITY
CHAPEL

750 W. STREETSBORO STREET
HUDSON, OH 44236

Revisions / Submissions

ID Description Date

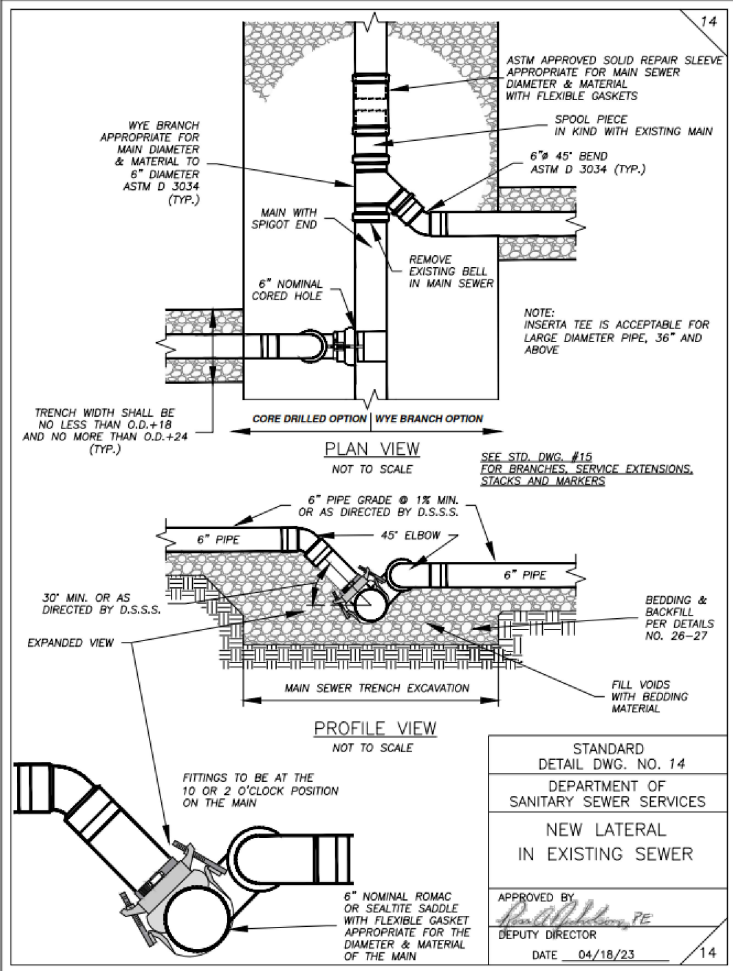
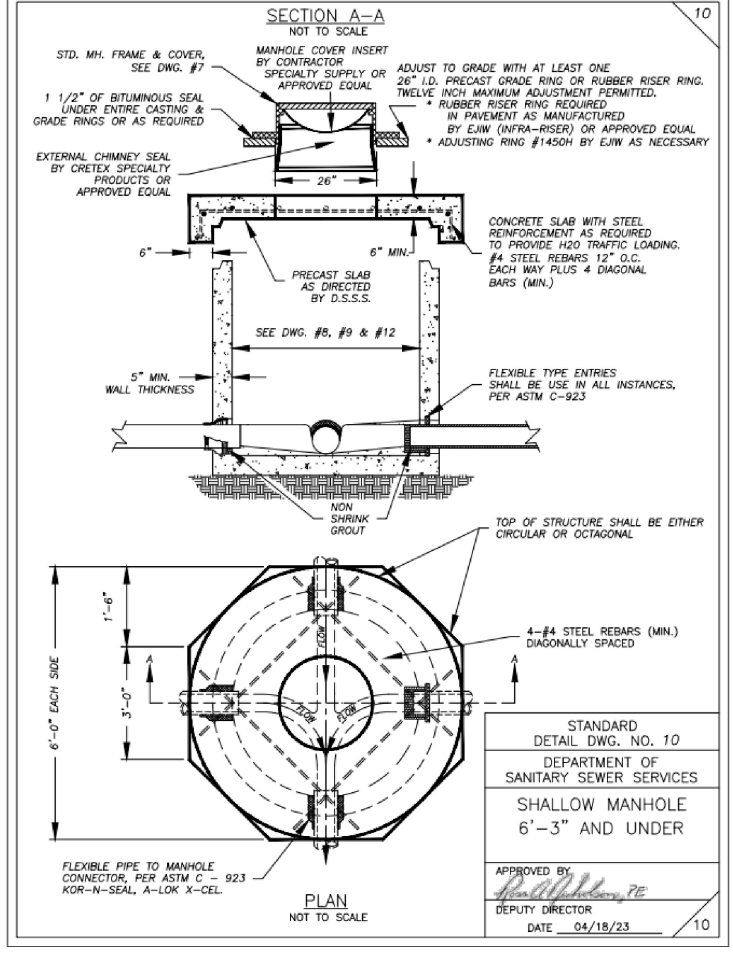
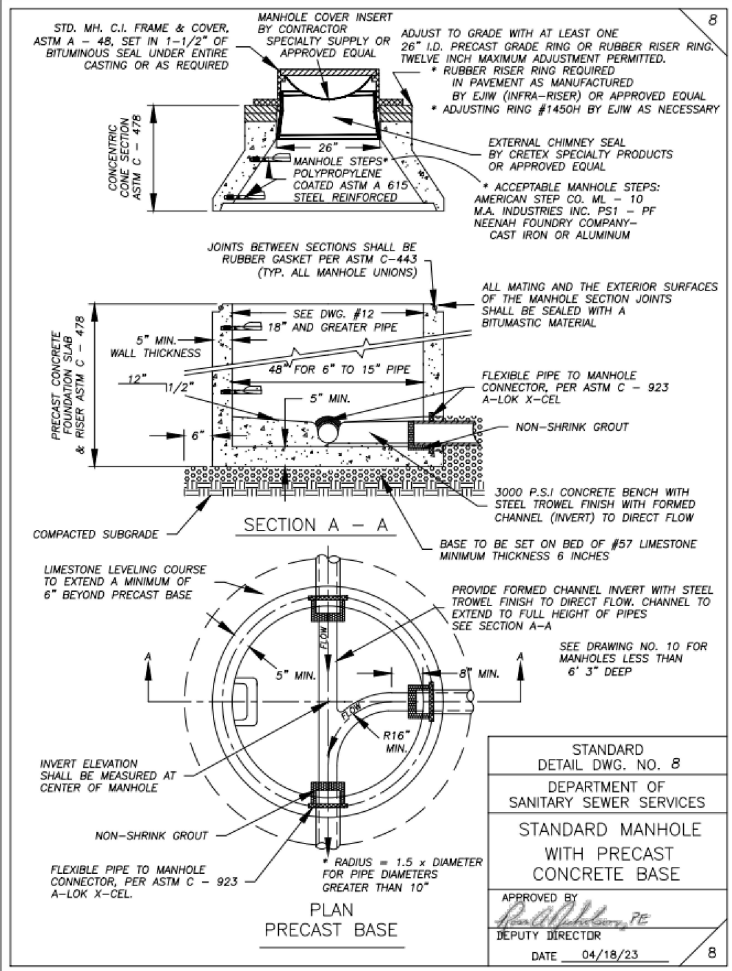
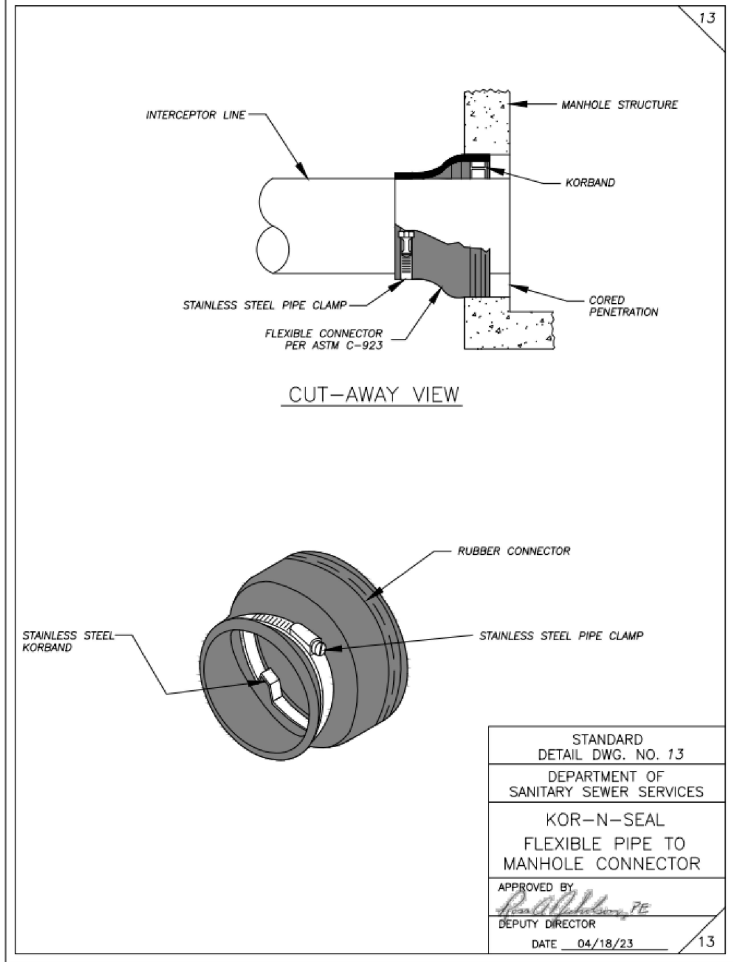
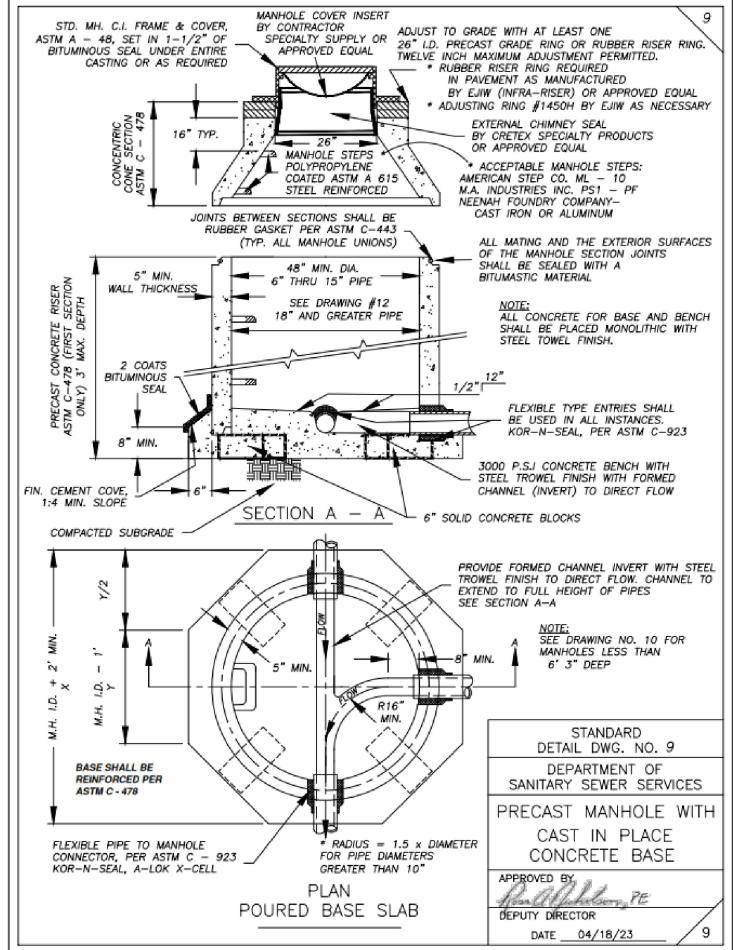
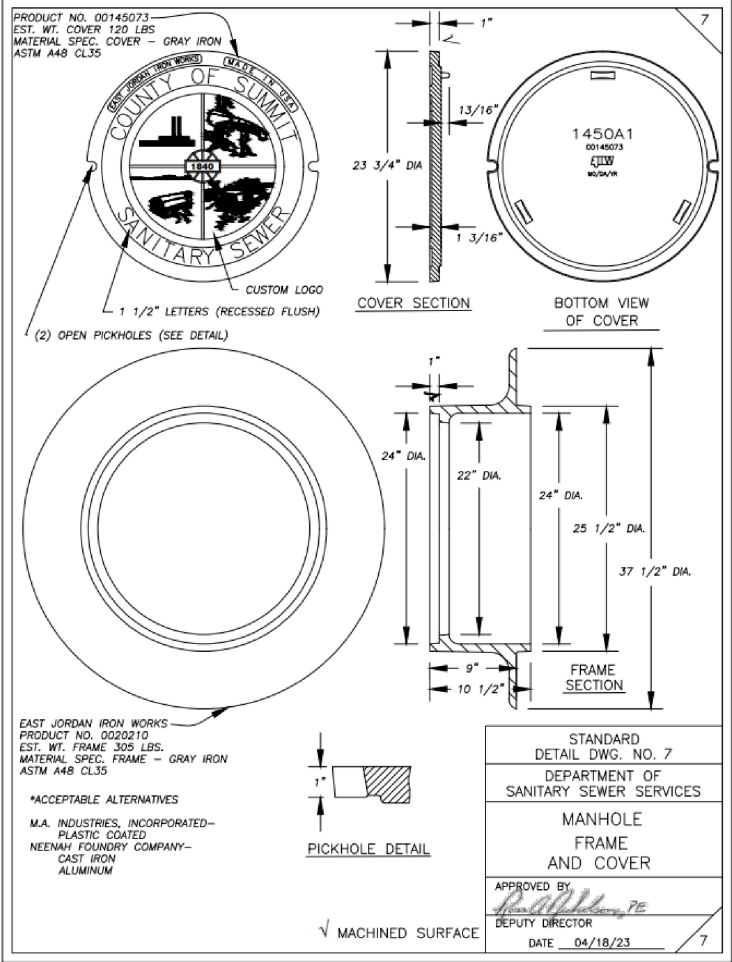
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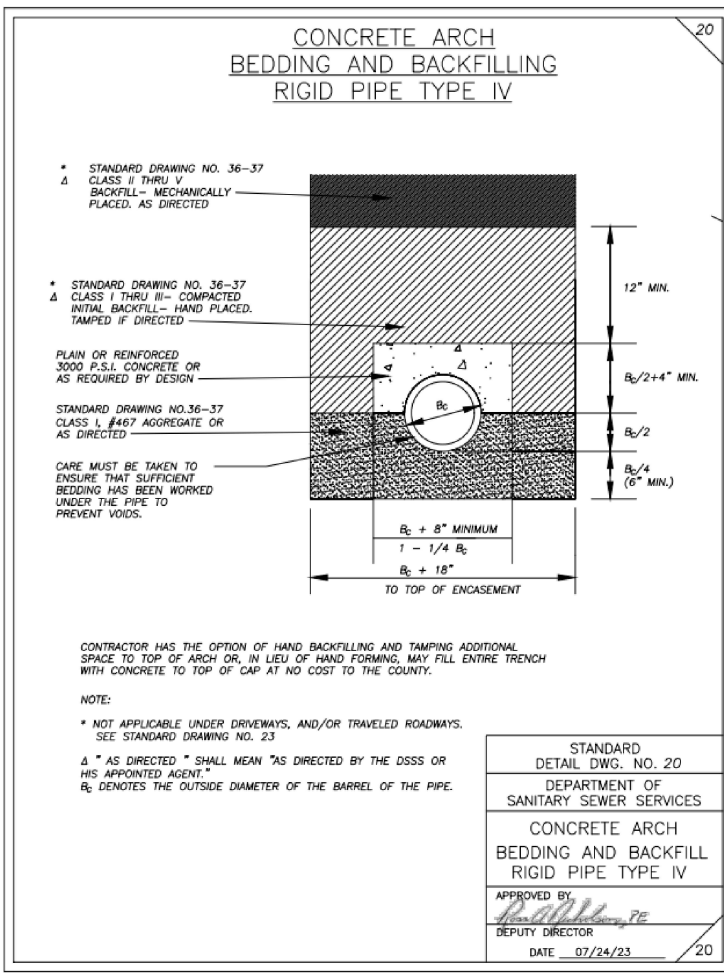
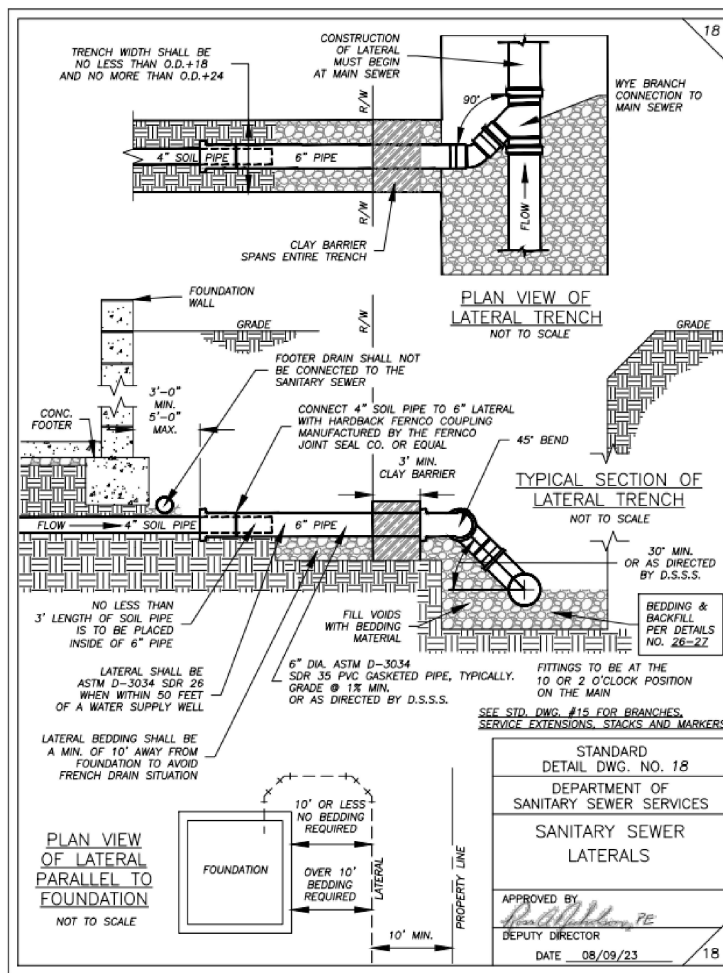
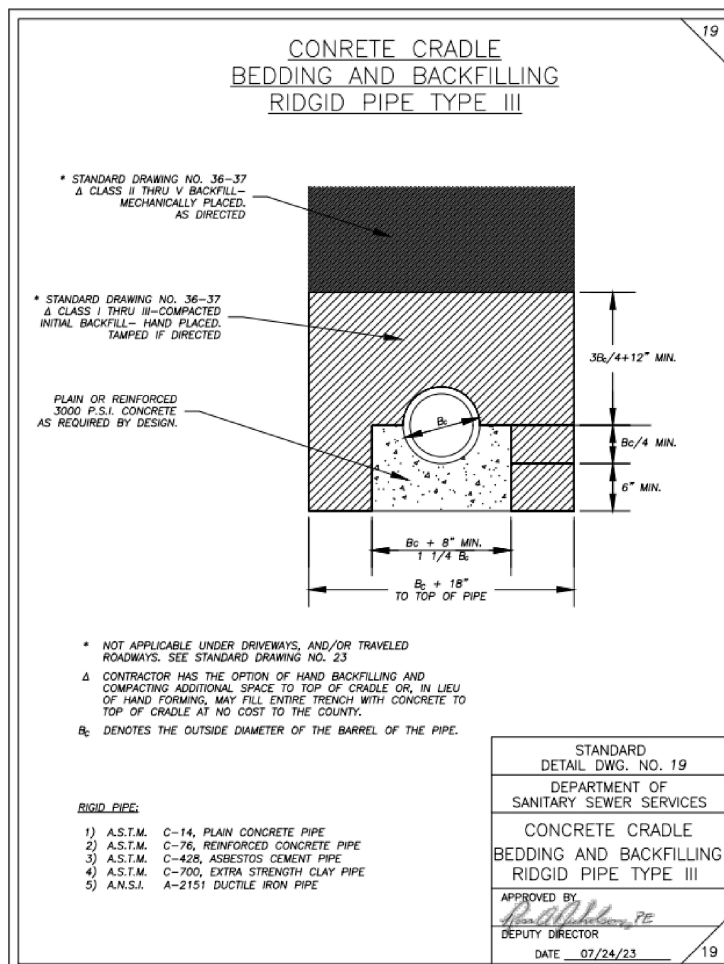
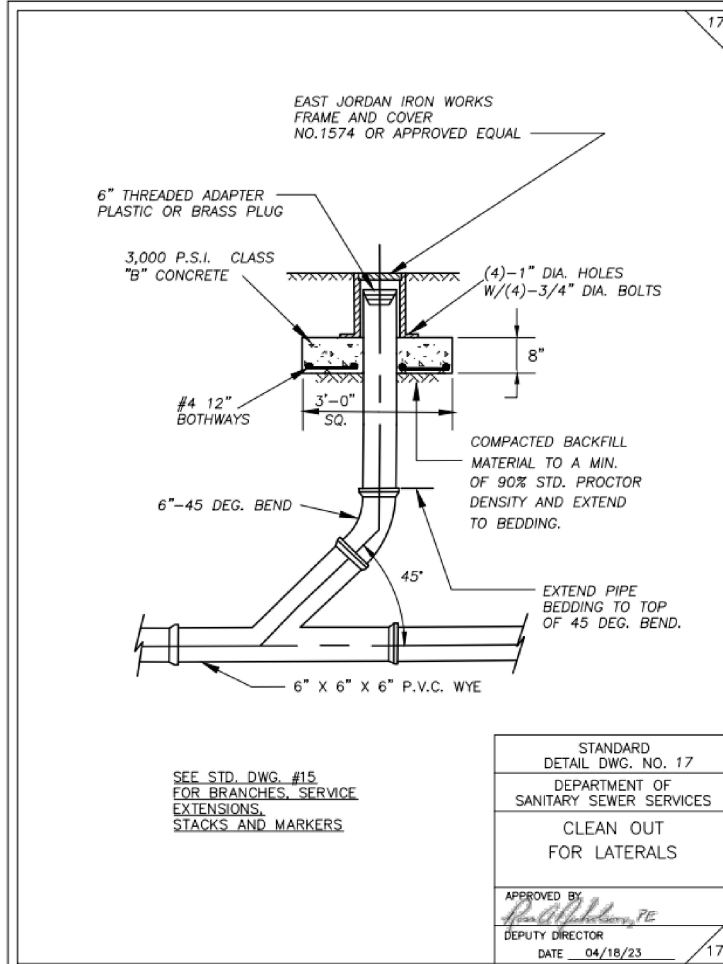
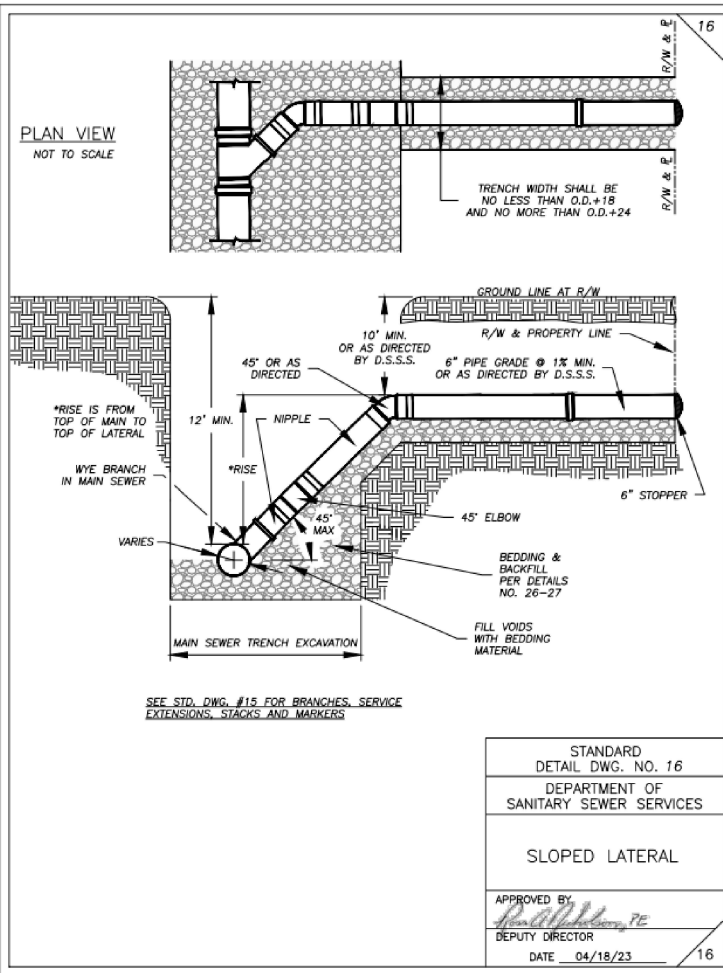
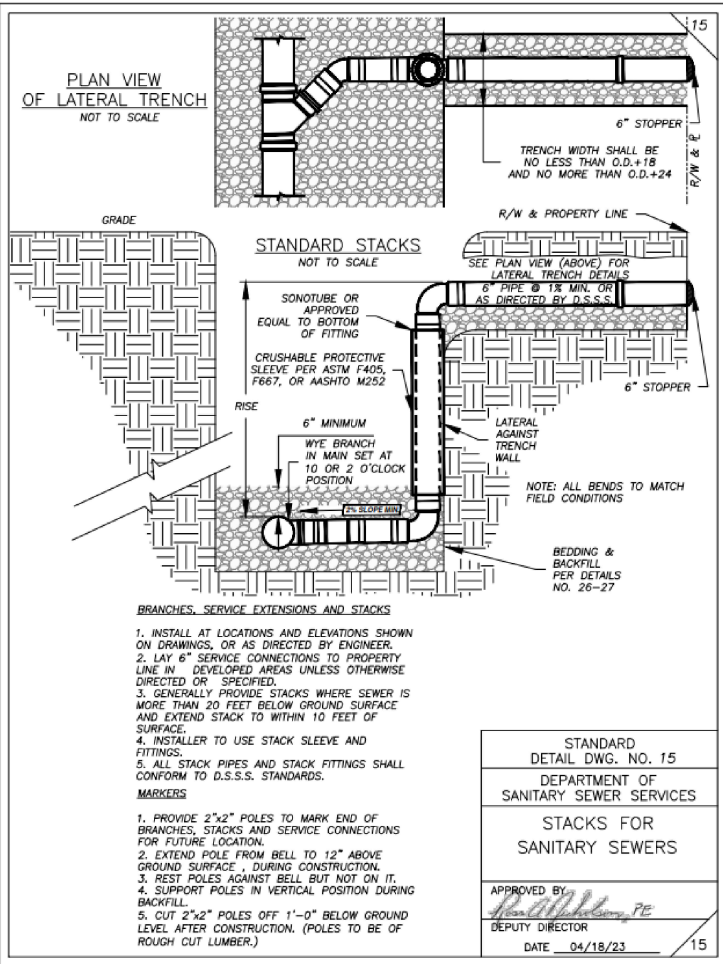
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Issue: PERMIT SET

Drawing Title:
SANITARY DETAILS

C8.8



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Akron, OH 44321
Phone: 330.665.0660 Fax: 330.208.4826



6/13/2025

SOL HARRIS/DAY ARCHITECTURE

CHRIST COMMUNITY
CHAPEL

750 W. STREETSBOBO STREET
HUDSON, OH 44236

Revisions / Submissions

ID	Description	Date
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Project Number: 765295

Scale: AS SHOWN

Drawn By: KAN

Checked By: JMS

Date: 06/13/2025

Issue: PERMIT SET

Drawing Title:
SANITARY DETAILS

C8.9

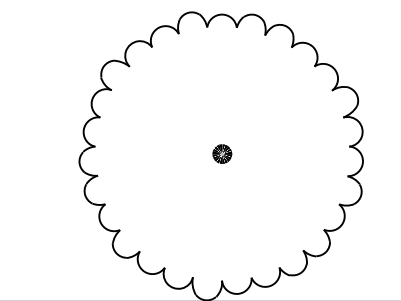
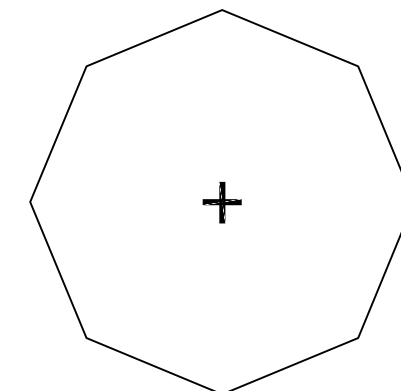
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PLANT SCHEDULE OFFICE

SYMBOL

TREES



QTY BOTANICAL / COMMON NAME SIZE MIN HT / SPR SPACING

3	ACER RUBRUM 'AUTUMN FLAME' AUTUMN FLAME RED MAPLE	2" CAL	10'-12" HT	AS SHOWN
2	PRUNUS X 'KANZAN' KANZAN FLOWERING CHERRY	2" CAL	10'-12" HT	AS SHOWN

SHRUBS

15	BUXUS X 'GLENCOE' CHICAGOLAND GREEN® BOXWOOD	---	36" HT	2'-0" OC
36	CHAMAECYPARIS PISIFERA 'GOLDEN MOP' GOLDEN MOP THREADLEAF SAWARA CYPRESS	---	24" HT	3'-0" OC
12	JUNIPERUS CHINENSIS 'HETZII GLAUCA' HETZII BLUE JUNIPER	---	8'-0" HT	4'-0" OC
36	JUNIPERUS CHINENSIS 'SEA GREEN' SEA GREEN JUNIPER	---	24" HT	4'-0" OC
30	SPIRAEA JAPONICA 'ANTHONY WATERER' ANTHONY WATERER JAPANESE SPIREA	---	36" HT	3'-0" OC

GROUND COVERS

50	CALAMAGROSTIS X ACUTIFLORA 'STRICTA' KARL FOERSTER FEATHER REED GRASS	---	24" HT	2'-0" OC
38	JUNIPERUS SABINA 'BUFFALO' BUFFALO JUNIPER	---	12" HT	3'-0" OC

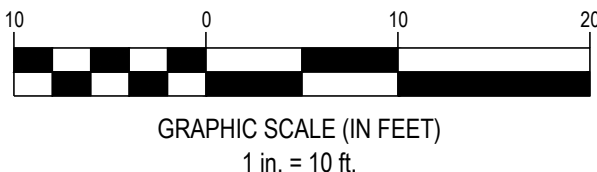
SOD/SEED

4,322 SF	POA PRATENSIS KENTUCKY BLUEGRASS	SOD
----------	-------------------------------------	-----

MULCH
ALL SEED/ SOIL SHALL BE PLACED ON 4" OF TOP SOIL.
CONTRACTOR TO PLACE A 4' DIAMETER MULCH RING AROUND ALL TREES IN LAWN.

LEGEND

---	R/W	RIGHT-OF-WAY
---	PROPERTY LINE	PROPERTY LINE
---	SETBACK	SETBACK
---	EASEMENT	EASEMENT
---	BUILDING	BUILDING
---	CONCRETE CURB	CONCRETE CURB
---	PAVEMENT/WALK	PAVEMENT/WALK
---	SURVEYED TREE LINE TO REMAIN	SURVEYED TREE LINE TO REMAIN
---	TREE LINE FROM AERIAL IMAGERY	TREE LINE FROM AERIAL IMAGERY
---	SIGN	SIGN
---	CATCH BASIN	CATCH BASIN
---	STORM MANHOLE	STORM MANHOLE
---	SANITARY MANHOLE	SANITARY MANHOLE
---	FIRE HYDRANT	FIRE HYDRANT
---	LIGHT POLE	LIGHT POLE
---	EXISTING TREE TO REMAIN	EXISTING TREE TO REMAIN
---	EXISTING TREE TO BE REMOVED	EXISTING TREE TO BE REMOVED

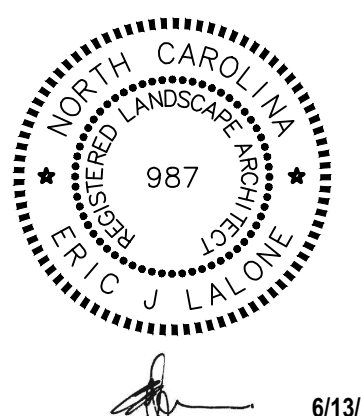


FORTY-EIGHT (48) HOURS
BEFORE DIGGING IS TO
COMMENCE, THE CONTRACTORS
SHALL NOTIFY THE FOLLOWING
AGENCIES: OHIO UTILITIES
PROTECTION SERVICE AT 811 OR
800-362-2764 AND ALL OTHER
AGENCIES WHICH MIGHT HAVE
UNDERGROUND UTILITIES
INVOLVING THIS PROJECT AND
ARE NONMEMBERS OF STATE
UTILITIES PROTECTION SERVICE



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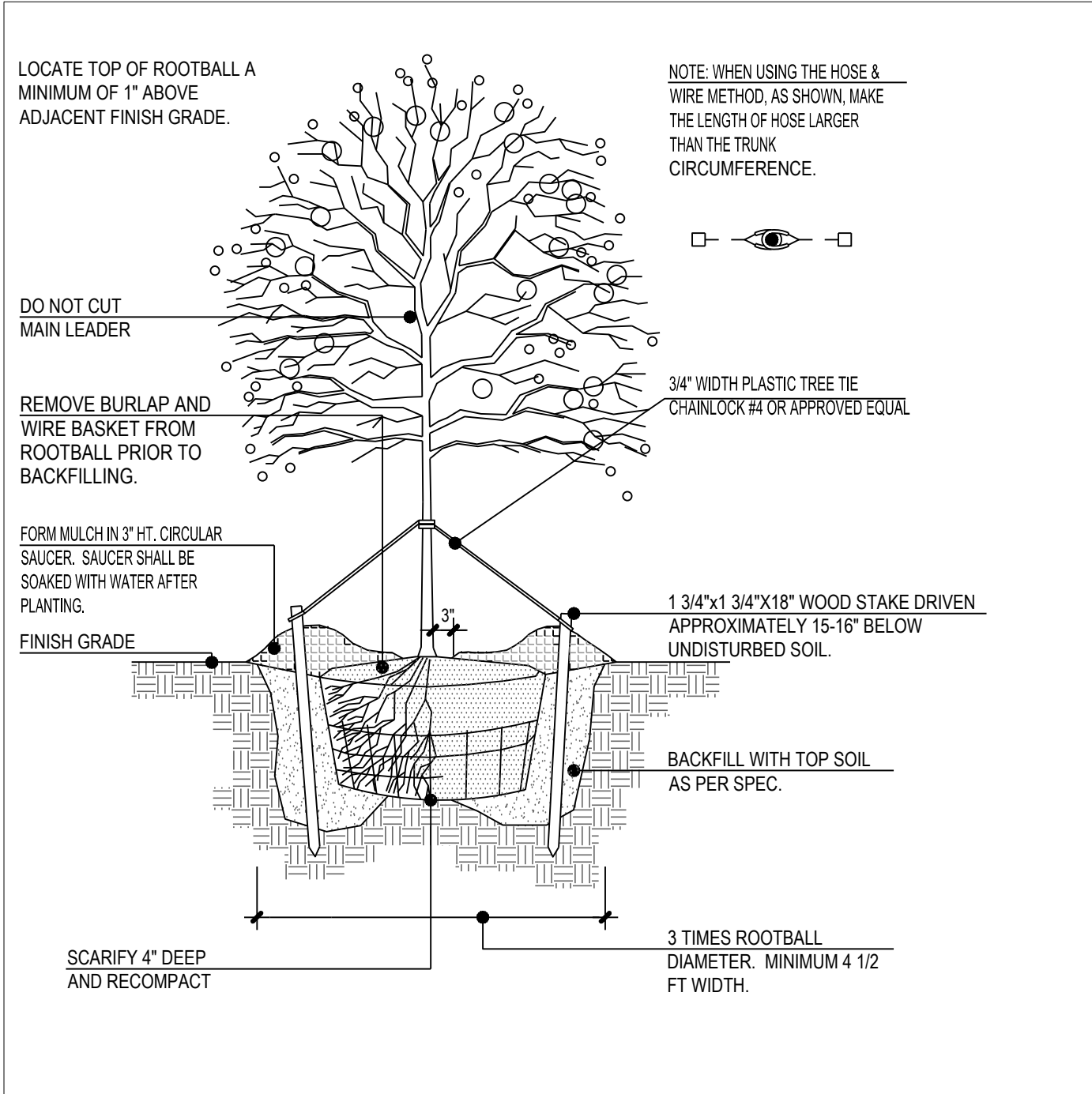
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Drawn By: JC
Checked By: JL
Date: 6/13/2025
Issue: PERMIT SET

Drawing Title:

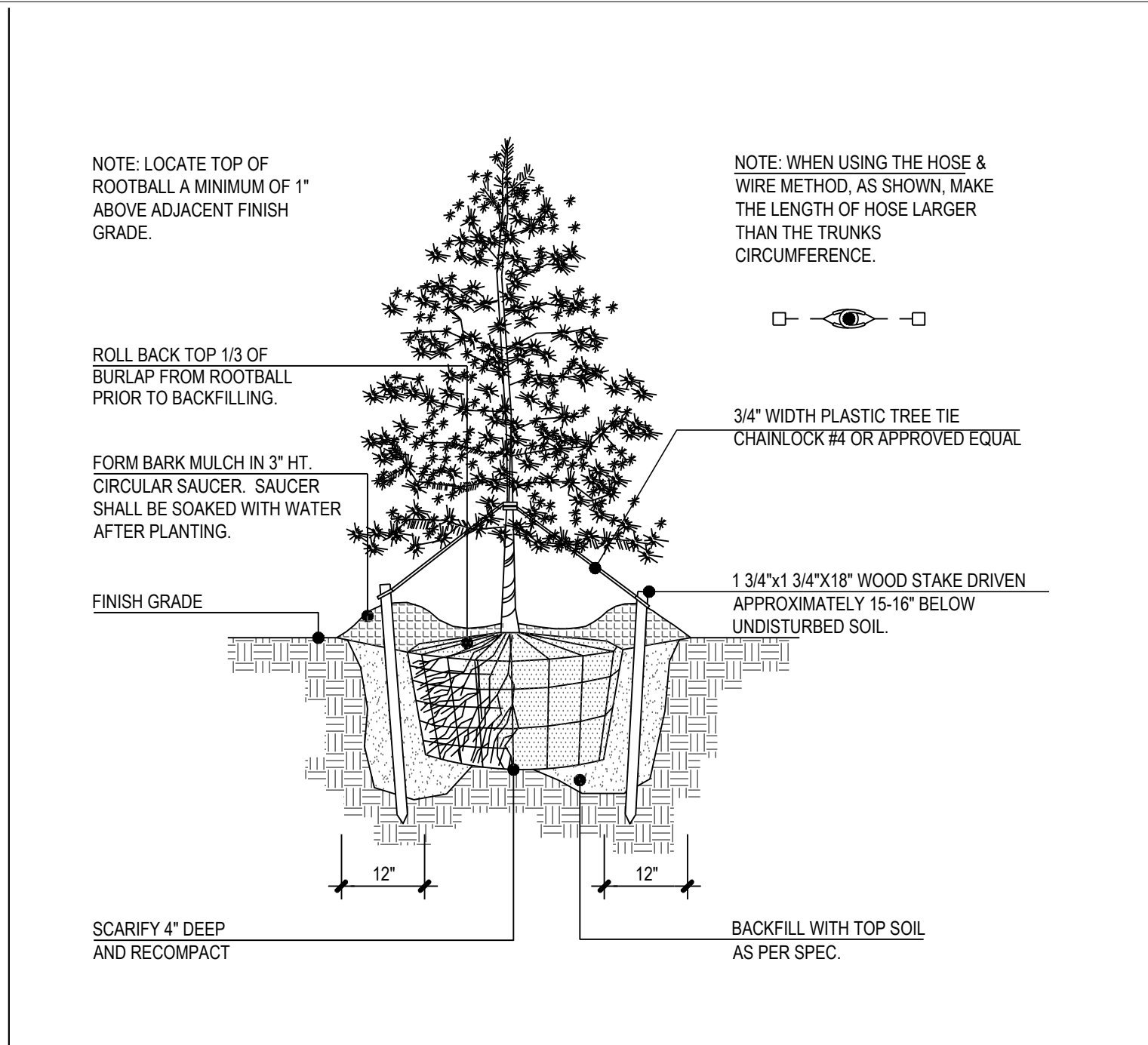
LANDSCAPE PLAN

L1.0

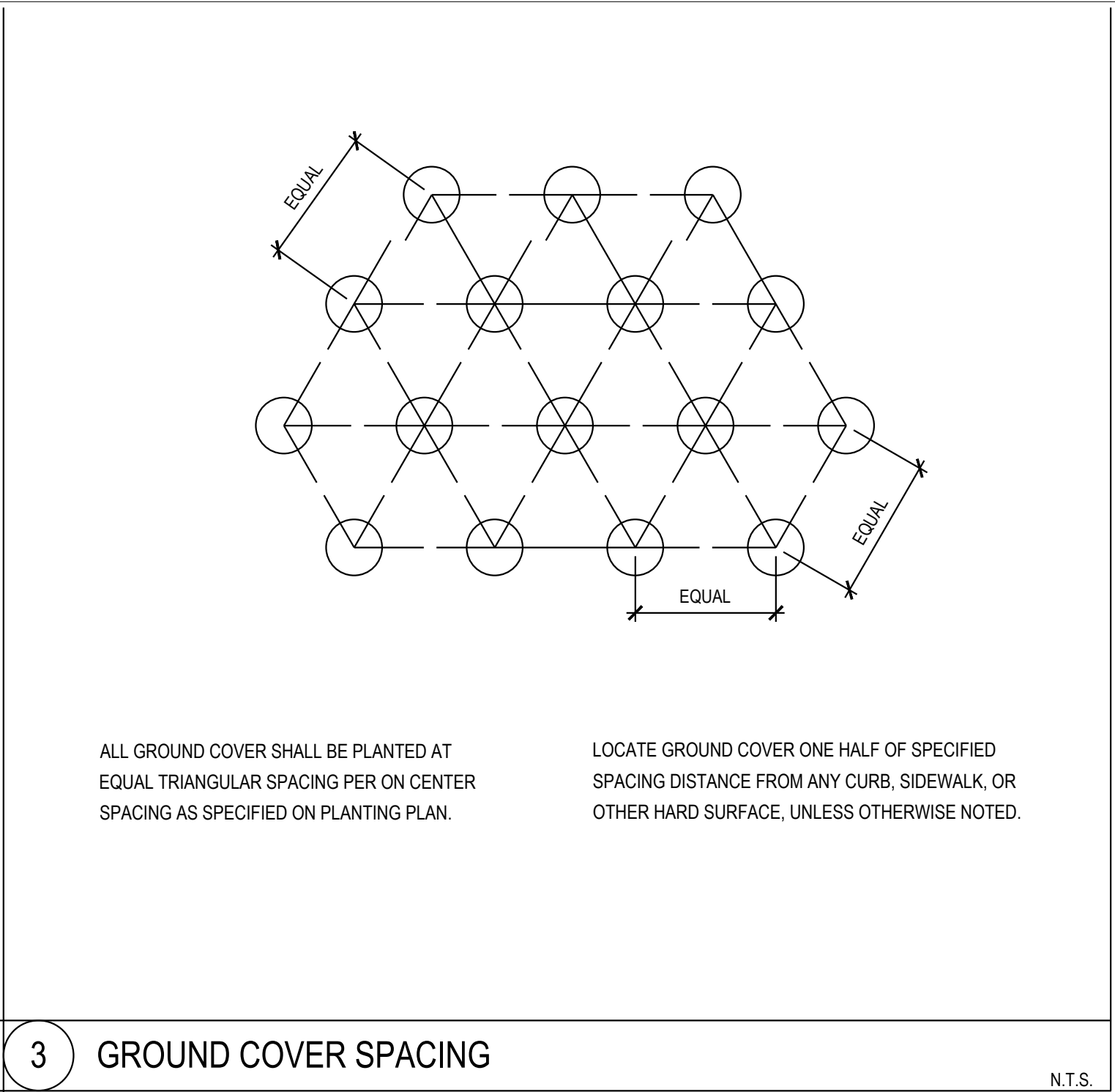
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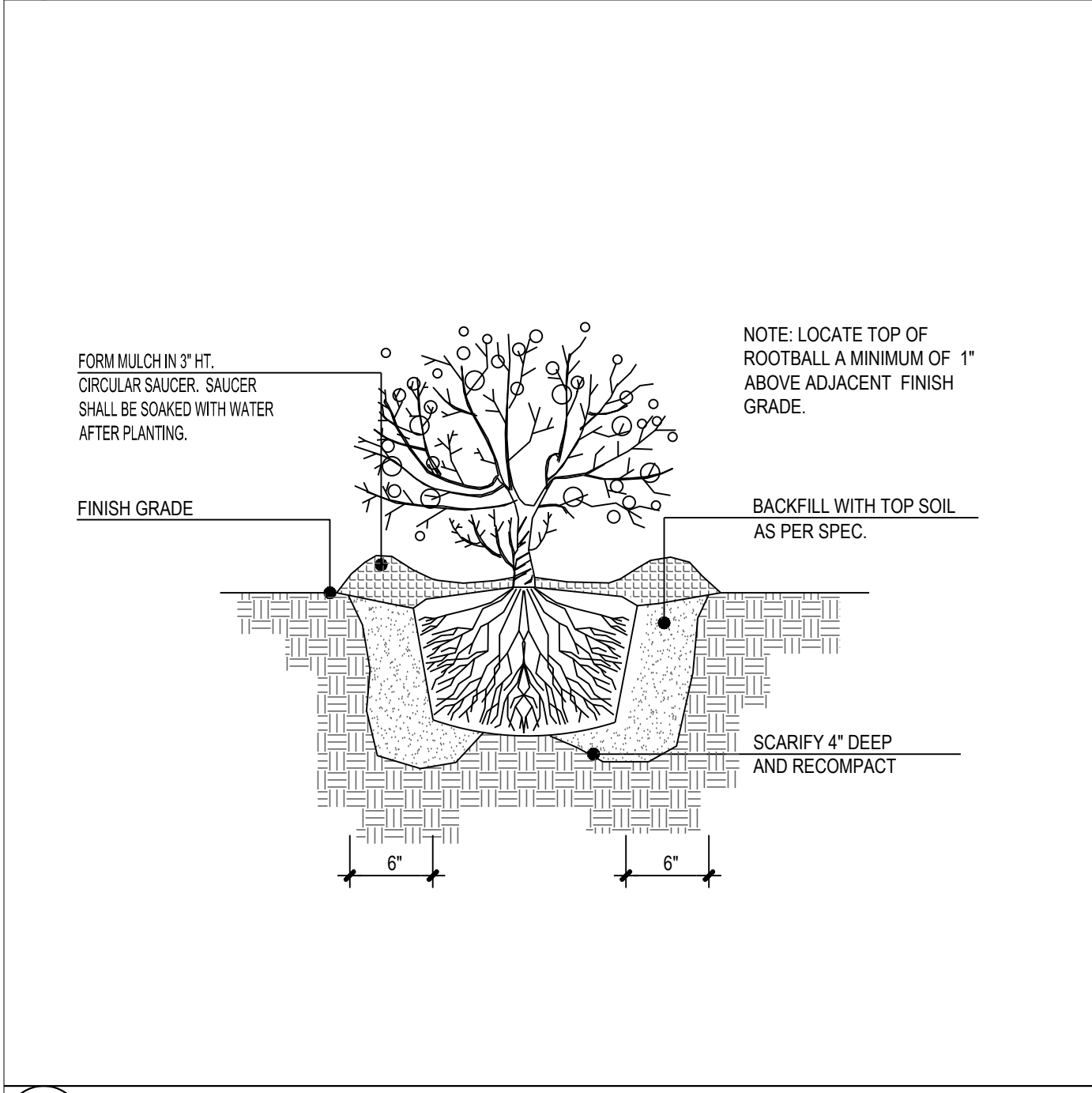
1 DECIDUOUS TREE STAKING N.T.S.



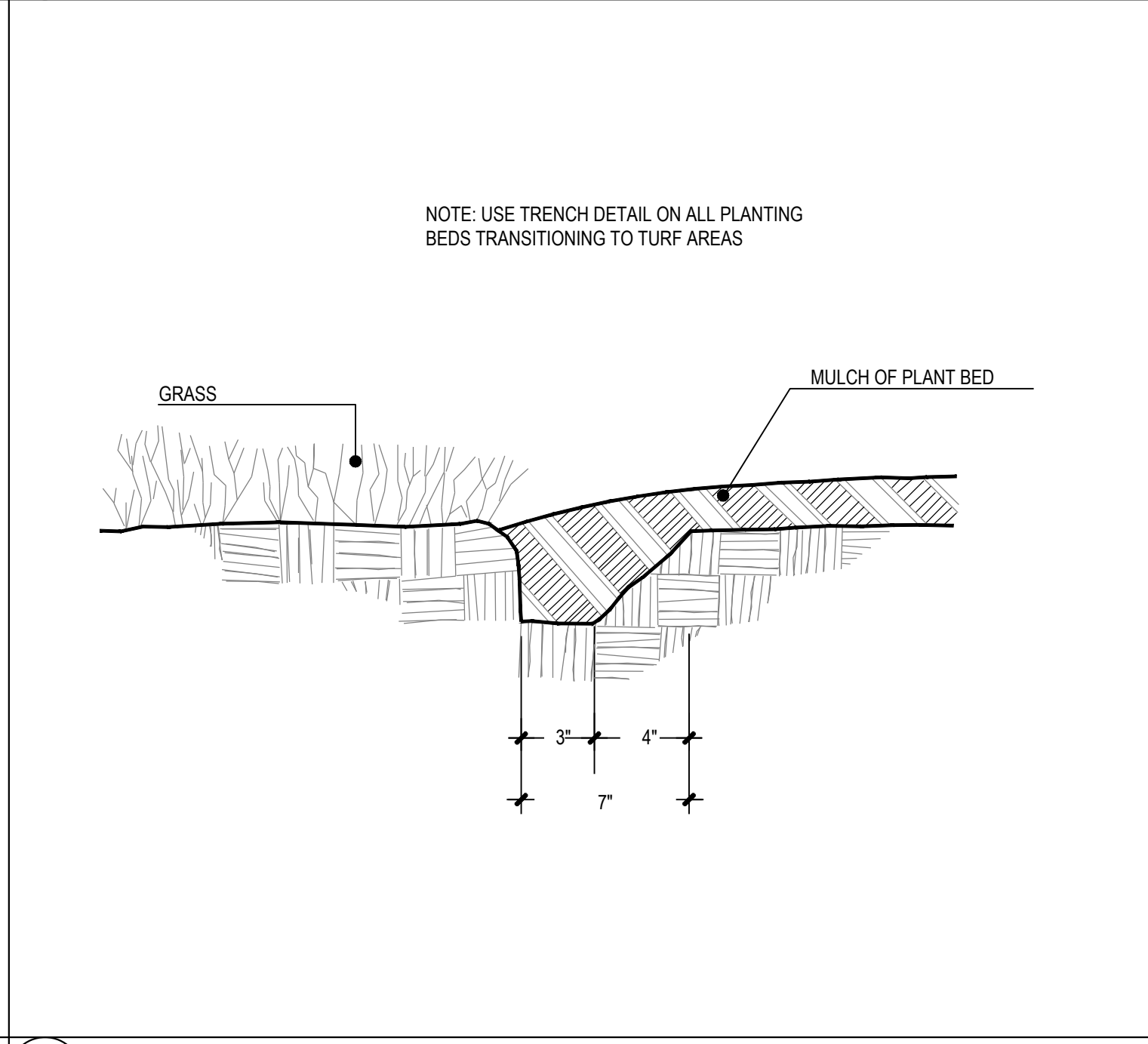
2 EVERGREEN TREE STAKING N.T.S.



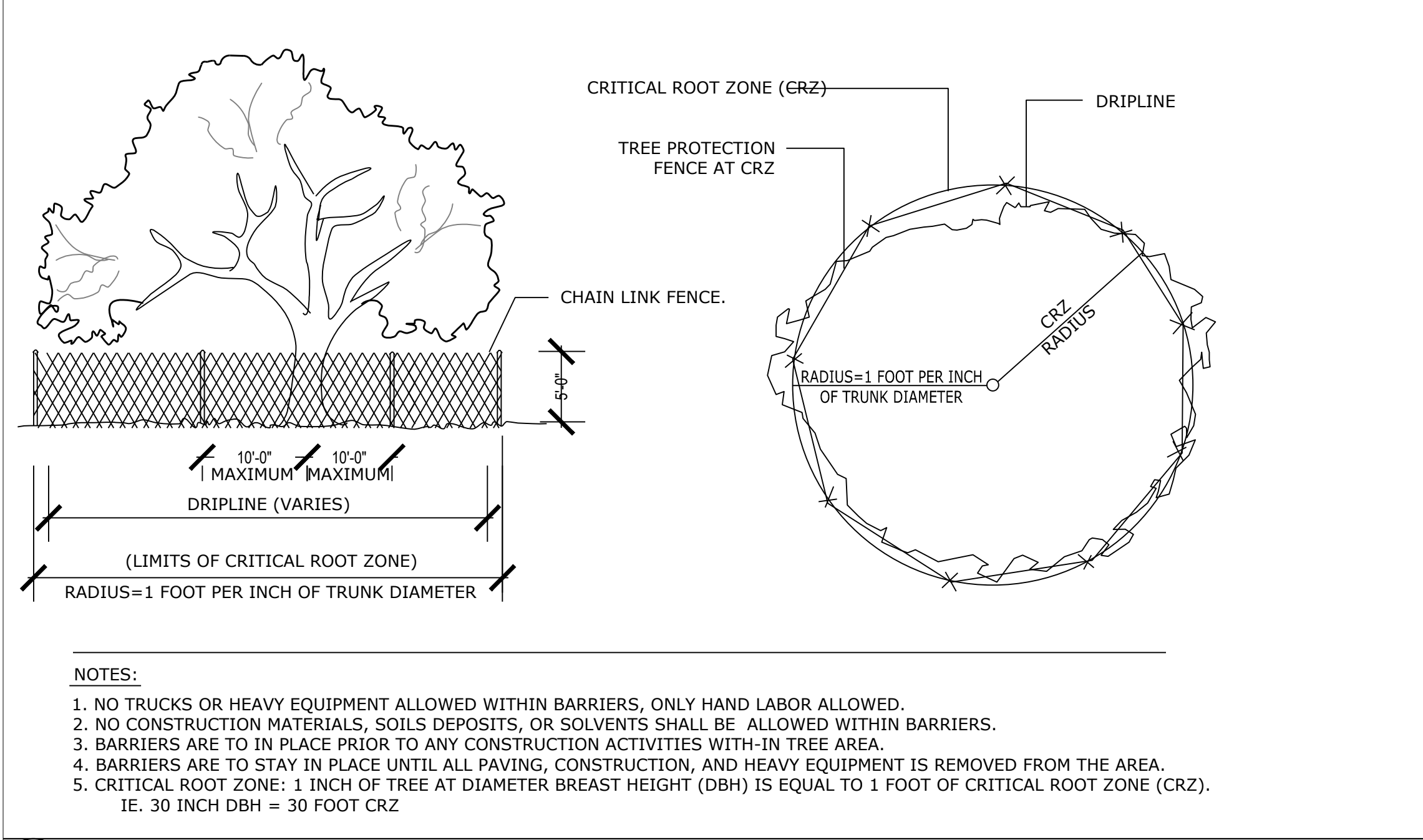
3 GROUND COVER SPACING N.T.S.



4 EVERGREEN / DECIDUOUS SHRUB N.T.S.



5 TRENCH EDGING N.T.S.



6 TYP. TREE PROTECTION

TREE PROTECTION NOTES

- DURING LAND ALTERATION AND CONSTRUCTION ACTIVITIES, DO NOT PLACE SOIL DEPOSITS, DEBRIS SOLVENTS, MACHINERY CONSTRUCTION MATERIAL OF ANY KIND WITHIN THE DRIP LINE OF A TREE TO REMAIN.
- BEFORE CONSTRUCTION STARTS ALL PROTECTED TREES SHALL BE PRUNED AS FOLLOWS UNLESS OTHERWISE DIRECTED BY THE OWNER OR HIS REPRESENTATIVE: REMOVE ANY DEAD OR DISEASED TRUNKS OR BRANCHES, AND REMOVE WEAK OR CROSSED BRANCHES. ALL CUTS SHALL BE MADE SUFFICIENTLY CLOSE TO THE TRUNK OR PARENT LIMB, WITHOUT CUTTING INTO THE BRANCH COLLAR OR LEAVING A PROTRUDING STUB, SO THAT CLOSURE CAN READILY START. ALL TRIMMING SHALL BE DONE BY A QUALIFIED TREE SURGEON. PRUNING SHALL BE IN ACCORDANCE WITH ANSI A-300 PRUNING STANDARDS.
- ALL ROOTS TO BE REMOVED DURING THE SITE CLEARING SHALL BE SEVERED CLEAN AT THE PERIMETER OF THE DESIGNATED PROTECTED RADIUS. A 3" LAYER OF MULCH SHALL BE IMMEDIATELY APPLIED OVER THE SURFACE OF EXPOSED ROOTS OF PROTECTED TREES. A SOIL AUGER WILL BE USED TO BORE UNDER ROOT SYSTEMS UTILITIES ARE TO BE INSTALLED WITHIN 10' OF A PROTECTED TREE.

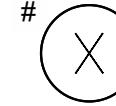
ROOT PRUNING NOTE:

WHEN THE CRITICAL ROOT ZONE WILL BE DISTURBED, AFFECTED ROOTS MUST BE SEVERED BY CLEAN PRUNING CUTS AT THE POINT WHERE CONSTRUCTION IMPACTS THE ROOTS. ROOTS CAN BE PRUNED BY UTILIZING TRENCHING EQUIPMENT DESIGNED FOR THIS PURPOSE OR BY HAND DIGGING A TRENCH AND PRUNING ROOTS WITH A PRUNING SAW, CHAIN SAW OR OTHER EQUIPMENT DESIGNED FOR TREE PRUNING. ROOTS LOCATED WITHIN A CRITICAL ROOT ZONE THAT WILL BE IMPACTED BY CONSTRUCTION MUST BE PRUNED TO A DEPTH OF 18 INCHES BELOW THE EXISTING GRADE OR TO THE DEPTH OF DISTURBANCE IF LESS THAN 18 INCHES FROM THE EXISTING GRADE. WHEN UNDERGROUND UTILITY LINES ARE TO BE INSTALLED WITHIN THE CRITICAL ROOT ZONE, THE ROOT PRUNING REQUIREMENTS MAY BE WAIVED IF THE LINES ARE INSTALLED VIA TUNNELING OR DIRECTIONAL BORING AS OPPOSED TO OPEN TRENCHING. A LICENSED CERTIFIED ARBORIST SHALL PROVIDE PRUNING.

GENERAL NOTES: LANDSCAPE PLAN

- CONTRACTOR TO VERIFY WITH OWNER AND UTILITY COMPANIES THE LOCATIONS OF ALL UTILITIES PRIOR TO CONSTRUCTION, TO DETERMINE IN THE FIELD THE ACTUAL LOCATIONS AND ELEVATIONS OF ALL EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OR NOT. THE CONTRACTOR SHALL CALL UTILITY LOCATE SERVICE 72 HOURS PRIOR TO CONSTRUCTION.
- SITE CONDITIONS BASED UPON SURVEY PROVIDED BY OWNER. CONTRACTOR TO FIELD VERIFY EXISTING CONDITIONS BY DETAILED INSPECTION PRIOR TO SUBMITTING BID AND BEGINNING CONSTRUCTION.
- REFER TO SITE CIVIL DRAWINGS FOR ADDITIONAL REQUIREMENTS AND COORDINATE WORK WITH OTHER SITE RELATED DEVELOPMENT DRAWING AS NEEDED.
- REESTABLISH EXISTING TURF IN AREAS DISTURBED BY GRADING OR UTILITY TRENCHING, INCLUDING AREAS IN RIGHT-OF-WAY, TO MATCH EXISTING SPECIES.
- CONTRACTOR SHALL EXAMINE FINISH SURFACE, GRADES, TOPSOIL QUALITY AND DEPTH. DO NOT START ANY WORK UNTIL UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED. VERIFY LIMITS OF WORK BEFORE STARTING.
- CONTRACTOR TO REPORT ALL DAMAGES TO EXISTING CONDITIONS AND INCONSISTENCIES WITH PLANS TO LANDSCAPE ARCHITECT.
- CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE IN ALL LANDSCAPE BEDS AND ALL LAWN AREAS.
- CONTRACTOR TO FINE GRADE AND ROCK-HOUND ALL TURF AREAS PRIOR TO SEEDING, TO PROVIDE A SMOOTH AND CONTINUAL SURFACE, FREE OF IRREGULARITIES (BUMPS OR DEPRESSIONS) & EXTRANEIOUS MATERIAL OR DEBRIS.
- REMOVE EXISTING WEEDS FROM PROJECT SITE PRIOR TO THE ADDITION OF ORGANIC AMENDMENTS AND FERTILIZER. APPLY AMENDMENTS AND FERTILIZER AS NEEDED.
- QUANTITIES SHOWN ARE INTENDED TO ASSIST CONTRACTOR IN EVALUATING THEIR OWN TAKE OFFS AND ARE NOT GUARANTEED AS ACCURATE REPRESENTATIONS OF REQUIRED MATERIALS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR HIS BID QUANTITIES AS REQUIRED BY THE PLANS AND SPECIFICATIONS. IF THERE IS A DISCREPANCY BETWEEN THE NUMBER LABELED ON THE PLANT LEGEND AND THE QUANTITY OF GRAPHIC SYMBOLS SHOWN, THE GREATER QUANTITY SHALL GOVERN.
- COORDINATE LANDSCAPE INSTALLATION WITH INSTALLATION OF UNDERGROUND SPRINKLER AND DRAINAGE SYSTEMS.
- ALL SIZES AND QUALITY OF PLANT MATERIAL SHALL MEET THE MINIMUM SPECIFICATIONS OF THE AMERICAN STANDARD FOR NURSERY STOCK (ANSI Z60.1-2014). THE LANDSCAPE CONTRACTOR SHALL INSTALL ALL PLANT MATERIAL IN SIZE AS INDICATED IN THE PLANT SCHEDULE UNLESS OTHERWISE SPECIFIED ON THE PLAN SET. ALL PLANTS THAT DO NOT MEET THE SIZE AND SPECIFICATIONS SET FORTH BY THE AMERICAN STANDARD FOR NURSERY STOCK WILL BE REJECTED BY LANDSCAPE ARCHITECT AT NO COST TO OWNER.
- ONCE PROJECT IS AWARDED, THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE TO SECURE ALL PLANT MATERIAL IN THE SIZE SPECIFIED ON PLAN PRIOR TO INSTALLATION. IN THE EVENT THE PLANT MATERIAL IS NOT AVAILABLE IN THE SIZE SPECIFIED, THE CONTRACTOR SHALL INSTALL LARGER AT NO COST TO OWNER.
- THE LANDSCAPE CONTRACTOR SHALL OBTAIN WRITTEN APPROVAL FOR ALL PLANT MATERIAL SUBSTITUTIONS FROM THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION. PLANT SUBSTITUTIONS WITHOUT PRIOR WRITTEN APPROVAL THAT DO NOT COMPLY WITH THE DRAWINGS AND SPECIFICATIONS MAY BE REJECTED BY THE LANDSCAPE ARCHITECT AND REPLACED BY CONTRACTOR AT NO COST TO THE OWNER.
- PRIOR TO MOBILIZATION THE CONTRACTOR SHALL NOTIFY THE LANDSCAPE ARCHITECT, IN WRITING, IF HE/SHE BELIEVES ANY OF THE PLANT MATERIAL IDENTIFIED ON THE PLAN MAY NOT BE SUITABLE FOR THE SITE OR MAY DIE. SUBSTITUTION REQUESTS WILL BE GRANTED BY THE LANDSCAPE ARCHITECT PRIOR TO THE START OF CONSTRUCTION ACTIVITIES. IF NOTIFICATION IS NOT GIVEN TO THE LANDSCAPE ARCHITECT ALL PLANTING WHICH FAILS TO GROW (EXCEPT FOR DEFECTS RESULTING FROM LACK OF ADEQUATE MAINTENANCE AS DETERMINED BY THE OWNER, NEGLIGENCE, OR VANDALISM) SHALL BE REPLACED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE.
- WHERE PROPOSED TREE LOCATIONS OCCUR UNDER EXISTING OVERHEAD UTILITIES OR CROWD EXISTING TREES, NOTIFY LANDSCAPE ARCHITECT TO ADJUST TREE LOCATIONS.
- ALL PLANT MASSES TO BE TOP DRESSED WITH MULCH AS SPECIFIED IN PLANT SCHEDULE. SPREAD UNIFORMLY IN DEPTH OVER THE PLANTING BEDS AS DELINEATED ON THE PLANS UNLESS OTHERWISE NOTED.
- BED EDGE TO BE NO LESS THAN 12" AND NO MORE THAN 18" FROM OUTER EDGE OF PLANT MATERIAL BRANCHING. WHERE GROUND-COVER OCCURS, PLANT TO LIMITS OF AREA AS SHOWN.
- INITIAL LANDSCAPE MAINTENANCE IS THE LANDSCAPE CONTRACTORS RESPONSIBILITY UNTIL THE DATE OF SUBSTANTIAL COMPLETENESS AND FINAL ACCEPTANCE BY THE OWNER. MAINTAIN TREES, SHRUBS, LAWNS, AND OTHER PLANTS AS PER THE PROJECT MANUAL AND/OR WRITTEN SPECIFICATIONS, IF APPLICABLE. EXTENDED LANDSCAPE MAINTENANCE PERIOD UNDER A SEPARATE APPROVED CONTRACT BEGINS IMMEDIATELY AFTER THE SUBSTANTIAL COMPLETION OF ALL PLANTING OPERATIONS AND WRITTEN ACCEPTANCE FROM THE OWNER AND/OR LANDSCAPE ARCHITECT.
- ALL LANDSCAPE MAINTENANCE SHALL BE IN ACCORDANCE WITH LOCAL GOVERNING STANDARDS, IN ADDITION TO OWNER REQUIREMENTS.
- ALL PLANTS SHALL COME WITH A 1 YEAR WARRANTY. PLANTS SHALL BE GUARANTEED FOR ONE YEAR FROM THE DATE OF SUBSTANTIAL COMPLETENESS AND FINAL ACCEPTANCE BY OWNER. THE CONTRACTOR SHALL REPLACE ALL PLANTS, UNHEALTHY, DAMAGED, DYING OR DEAD. LAWNS THAT ARE NOT IN GOOD CONDITION AT THE END OF THE WARRANTY PERIOD SHALL BE REPAIRED UNTIL A GOOD LAWN RESULTS. UNLESS OTHERWISE COORDINATED WITH OWNER, IT IS UNDERSTOOD THE OWNER SHALL ASSUME RESPONSIBILITY FOR WATERING ALL PLANT MATERIAL AN LAWN ARE BEGINNING WITH THE DATE OF SUBSTANTIAL COMPLETENESS.
- REFER TO PROJECT MANUAL OR WRITTEN SPECIFICATIONS, IF AVAILABLE, FOR ADDITIONAL REQUIREMENTS.

EXISTING TREE CHART



TREE TO BE REMOVED - NUMBER IN SYMBOL CORRELATES WITH BELOW EXISTING TREE CHART



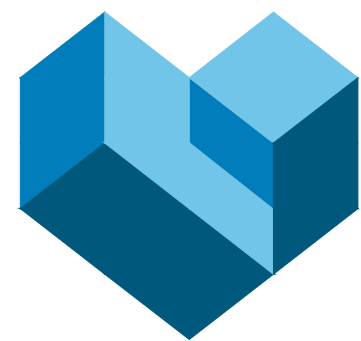
TREE TO BE RETAINED - NUMBER IN SYMBOL CORRELATES WITH BELOW EXISTING TREE CHART. REFER TO DEMO PLAN FOR ALL TREES TO BE REMOVED

TREE CHART

NO.	DESCRIPTION	16	8"	EASTERN WHITE PINE	32	18"	PIN OAK	48	8"	RED OAK
1	12" NORTHERN PINE OAK	17	8"	NORWAY SPRUCE	33	18"	PIN OAK	49	8"	BUR OAK
2	10" RED MAPLE	18	8"	BLUE SPRUCE	34	12"	DAWN REDWOOD	50	15"	GREEN ASH
3	15" EASTERN COTTONWOOD	19	10"	BLUE SPRUCE	35	8"	DAWN REDWOOD	51	8"	KATSURA
4	15" WHITE ASH	20	8"	WHITE SPRUCE	36	18"	PIN OAK	52	10"	WHITE SPRUCE
5	10" BALSAM POPLAR	21	12"	BRADFORD PEAR	37	12"	GREEN ASH	53	10"	WHITE SPRUCE
6	24" COMMON BLACKTHORN BUSH	22	12"	BLUE SPRUCE	38	15"	BLUE SPRUCE	54	10"	WHITE SPRUCE
7	24" COMMON BLACKTHORN BUSH	23	8"	WHITE SPRUCE	39	8"	WHITE SPRUCE	55	10"	WHITE SPRUCE
8	10" WHITE SPRUCE	24	6"	NORWAY SPRUCE	40	22"	DAWN REDWOOD	56	6"	RIVER BIRCH
9	10" WHITE SPRUCE	25	12"	EASTERN WHITE SPRUCE	41	10"	BLACK OAK			
10	10" WHITE SPRUCE	26	8"	BLUE SPRUCE	42	8"	RED OAK			
11	10" WHITE SPRUCE	27	8"	BLUE SPRUCE	43	10"	PIN OAK			
12	12" BLUE SPRUCE	28	12"	WHITE SPRUCE	44	8"	BUR OAK			
13	10" WHITE SPRUCE	29	6"	WHITE SPRUCE	45	8"	BUR OAK			
14	8" HONEY LOCUST	30	8"	WHITE SPRUCE	46	8"	BUR OAK			
15	6" RED MAPLE	31	6"	WHITE SPRUCE	47	8"	BLACK OAK			

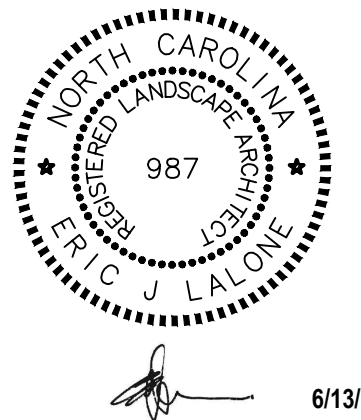
NOTE:

- CONTRACTOR IS TO PROVIDE MINOR CLEARING AND GRUBBING SERVICES. THIS INCLUDES BUT IS NOT LIMITED TO REMOVING DEAD OR DYING BRANCHES BOTH ON TREES OR ON GROUND, REMOVING VINES FROM EXISTING TREES, AND REMOVING ANY TRASH OR DEBRIS FROM SITE.
- REFER TO DETAIL 6 ON THIS SHEET, FOR TREE PROTECTION DETAIL



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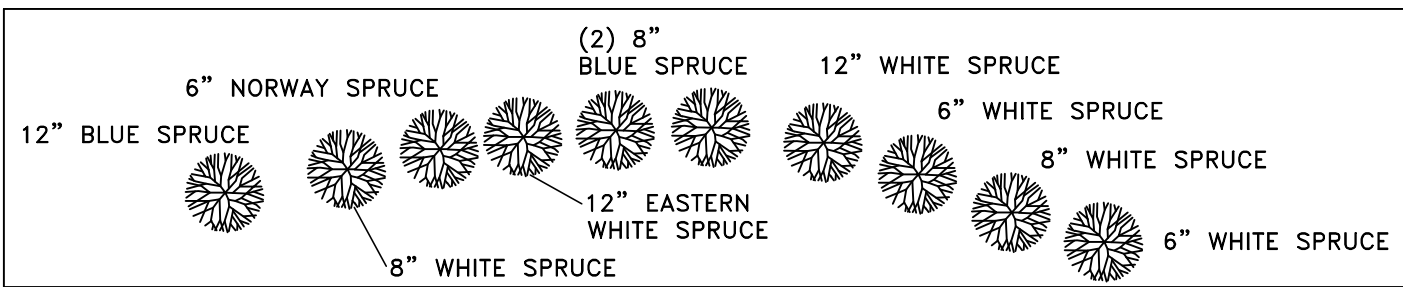
**LANDSCAPE DETAILS
& NOTES**

L1.1

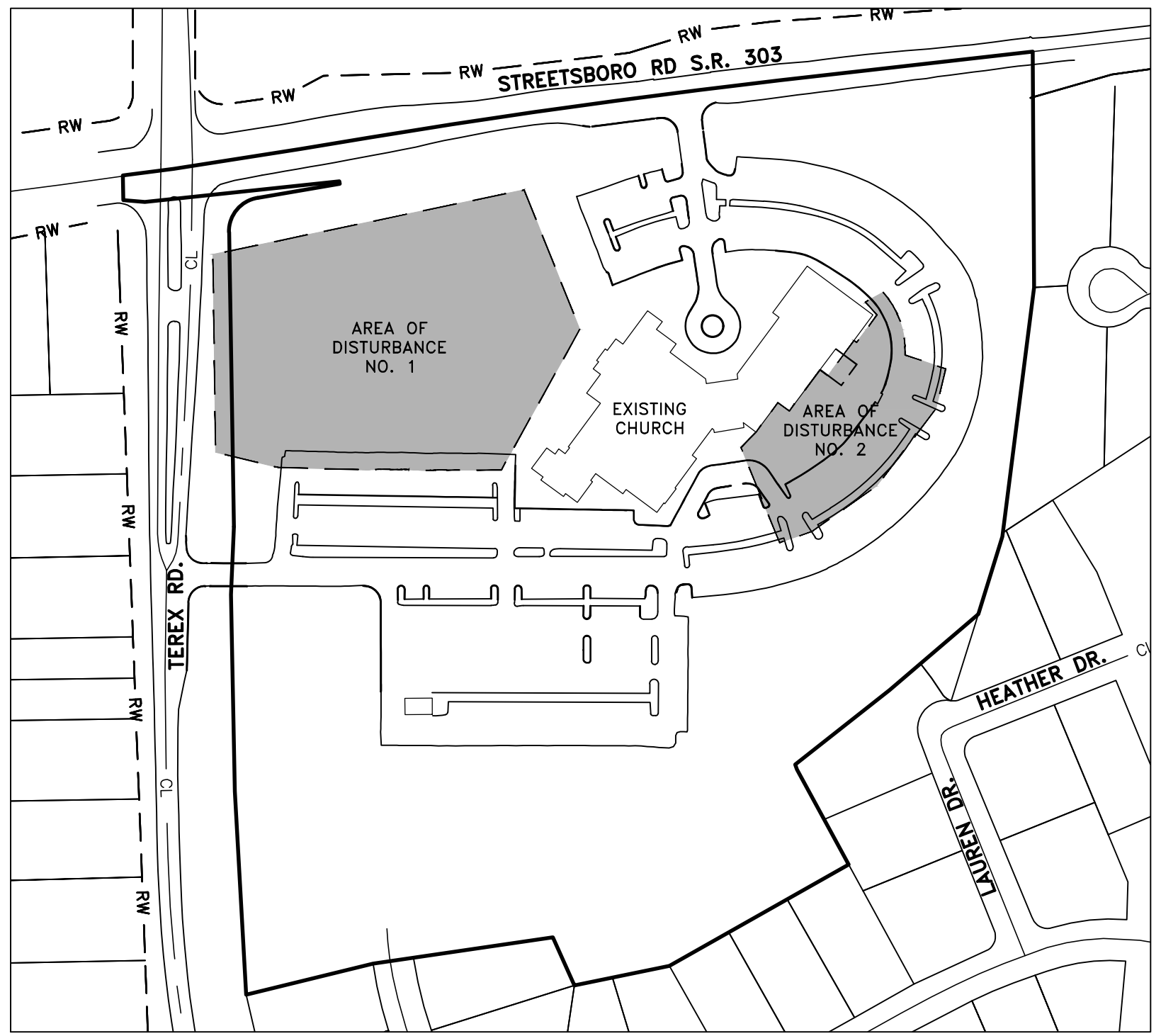
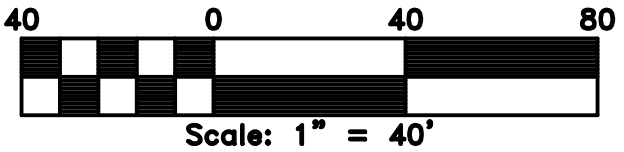
EXISTING TREE SITE PLAN
FOR HUDSON COMMUNITY CHAPEL
LOCATED IN HUDSON TOWNSHIP, SUMMIT COUNTY, OHIO



AREA OF DISTURBANCE NO. 1



TREE DETAIL
Scale: 1" = 20'



SITE MAP
Scale: 1" = 200'



AREA OF DISTURBANCE NO. 2

DATUM & BASIS OF BEARINGS
THE BEARINGS ARE BASED ON OHIO STATE PLANE COORDINATES, GRID NORTH. TO DETERMINE GRID NORTH THE OHIO DEPARTMENT OF TRANSPORTATION'S REAL TIME NETWORK WAS USED. THE REFERENCE DATUM AND REFERENCE FRAME ARE NAD83 (2011).

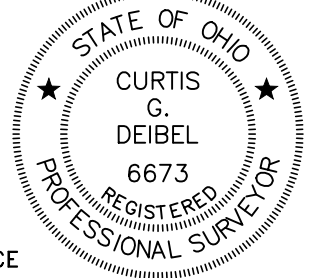
LEGEND:
○ EXISTING DECIDUOUS TREE (AS NOTED)
● EXISTING CONIFEROUS TREE (AS NOTED)
◇ EXISTING BUSH

NOTE:
1. EXISTING TREE AND VEGETATION REMOVAL COUNT TO BE PROVIDED BY OTHERS.
2. COST ESTIMATE FOR TREE AND VEGETATION PLANTING IMPROVEMENTS TO BE PROVIDED BY A REGISTERED LANDSCAPE ARCHITECT OR QUALIFIED PROFESSIONAL.
3. TREE IDENTIFICATION PROVIDED BY A PLANT IDENTIFIER APP.

SCALES		EXISTING TREE SITE PLAN		FOR HUDSON COMMUNITY CHAPEL		LOCATED IN HUDSON TOWNSHIP,		SUMMIT COUNTY, OHIO	
HORZ.	1" = 40'	DATE	01/23/2025	DRAWN BY	BEB	DATE		REV.	LTR.
PROJECT ID NO.	250122	CHECKED BY	CGD	DATE		DESCRIPTION			
SHEET NO.	1	APPROVED BY	CGD						
OF	1								
THIS BOUNDARY SURVEY HAS BEEN PREPARED IN ACCORDANCE WITH CHAPTER 4733-37 OF THE OHIO ADMINISTRATIVE CODE									

INFO@DSIOHIO.COM
1850 KIMBALL RD. S.E.
CANTON, OHIO 44707
OFFICE (330)455-2999
WWW.DSIOHIO.COM

deibel
surveying
INC



Curtis G. Deibel
CURTIS G. DEIBEL #6673
JANUARY 23, 2025

ALTA/NSPS LAND TITLE SURVEY
BEING PART OF ORIGINAL LOTS 31 AND 41
LOCATED IN HUDSON TOWNSHIP, SUMMIT COUNTY, OHIO



- STORM SEWER DATA
1. CURB INLET
GRATE EL=1016.19
FL 12" RCP(W)=1013.35
FL 12" RCP(E)=1013.35
 2. CURB INLET
GRATE EL=1016.86
FL 12" RCP(W)=1014.03
FL 12" RCP(E)=1014.16
FL 12" RCP(S)=1014.11
 3. CURB INLET
GRATE EL=1018.56
FL 12" RCP(W)=1015.91
FL 12" RCP(E)=1016.06
 4. CURB INLET
GRATE EL=1018.54
FL 12" RCP(W)=1016.19
 5. STORM MANHOLE
GRATE EL=1014.29
FL 12" PVC(W)=1003.54
FL 12" PVC(E)=1003.54
FL 12" PVC(S)=1003.54
 6. CATCH BASIN
GRATE EL=1024.82
FL 12" CP(W)=1015.62
FL 18" CP(E)=1015.62
FL 18" CP(S)=1015.57
 7. CATCH BASIN
GRATE EL=1024.88
FL 18" CP(W)=1018.43
FL 18" CP(E)=1018.63
FL 12" CP(S)=1021.18
 8. CATCH BASIN
GRATE EL=1025.69
FL 18" CP(W)=1018.84
FL 12" CP(E)=1018.84
FL 4" PVC(SW)=1023.35
FL 18" CP(S)=1016.99
 9. CATCH BASIN
GRATE EL=1026.10
FL 18" CP(W)=1021.00
FL 18" CP(E)=1021.65
FL 4" PVC(W)=1024.45
 10. CATCH BASIN
GRATE EL=1026.05
FL 18" CP(W)=1021.50
FL 18" CP(E)=1021.42
FL 4" PVC(W)=1025.05
 11. CATCH BASIN
GRATE EL=1027.77
FL 12" CP(W)=1023.52
FL 12" CP(E)=1023.57
FL 8" CP(W)=1024.12
 12. CATCH BASIN
GRATE EL=1031.29
FL 8" PVC(E)=1025.35
 13. CATCH BASIN
GRATE EL=1027.93
FL 12" CP(W)=1024.08
FL 4" CP(W)=1026.23
 14. STORM MANHOLE
GRATE EL=1030.25
FL 12" CP(W)=1025.57
FL 8" CP(W)=1024.12
 15. STORM MANHOLE
GRATE EL=1031.84
FL 8" PVC(E)=1025.35
 16. STORM MANHOLE
GRATE EL=1030.47
FL 12" CP(W)=1028.77
 17. CURB INLET
GRATE EL=1030.37
FL 8" CP(W)=1028.77
FL 12" CP(E)=1028.82
FL 12" CP(S)=1028.17
FL 4" CP(S)=1025.82
 18. CURB INLET
GRATE EL=1030.37
FL 8" CP(W)=1028.77
FL 12" CP(E)=1028.82
FL 12" CP(S)=1028.17
FL 4" CP(S)=1025.82
 19. STORM MANHOLE
GRATE EL=1030.16
FL 24" CP(W)=1024.88
FL 4" CP(W)=1027.13
 20. CATCH BASIN
GRATE EL=1028.28
FL 24" CP(W)=1023.43
FL 24" CP(E)=1023.28
 21. CATCH BASIN
GRATE EL=1028.28
FL 24" CP(W)=1023.43
FL 24" CP(E)=1023.28
 22. CATCH BASIN
GRATE EL=1028.28
FL 24" CP(W)=1023.43
FL 24" CP(E)=1023.28
 23. CATCH BASIN
GRATE EL=1028.28
FL 24" CP(W)=1023.43
FL 24" CP(E)=1023.28
 24. CATCH BASIN
GRATE EL=1028.28
FL 24" CP(W)=1023.43
FL 24" CP(E)=1023.28
 25. CATCH BASIN
GRATE EL=1028.28
FL 24" CP(W)=1023.43
FL 24" CP(E)=1023.28
 26. CATCH BASIN
GRATE EL=1028.28
FL 24" CP(W)=1023.43
FL 24" CP(E)=1023.28
 27. STORM MANHOLE
GRATE EL=1027.00
NO PIPE INFORMATION
 28. STORM MANHOLE
GRATE EL=1028.03
FL 15" CP(W)=1018.58
FL 12" CP(E)=1017.00
FL 12" CP(S)=1017.00
 29. STORM MANHOLE
GRATE EL=1027.00
FL 12" CP(W)=1016.97
FL 12" CP(E)=1016.92
 30. STORM MANHOLE
GRATE EL=1021.20
FL 12" CP(W)=1016.95
FL 12" CP(E)=1017.00
FL 12" CP(S)=1017.00
 31. STORM MANHOLE
GRATE EL=1015.67
FL 36" CP(W)=1006.07
FL 12" CP(E)=1009.72
 32. CATCH BASIN
GRATE EL=1013.25
FL 21" CP(W)=1010.25
FL 12" CP(W)=1011.25
FL 4" CP(S)=1011.20
FL 12" CP(E)=1011.10
FL 4" CP(S)=1011.40
 33. STORM MANHOLE
GRATE EL=1013.25
FL 21" CP(W)=1010.25
FL 12" CP(W)=1011.25
FL 4" CP(S)=1011.20
FL 12" CP(E)=1011.10
FL 4" CP(S)=1011.40
 34. CATCH BASIN
GRATE EL=1018.85
FL 15" RCP(W)=1015.00
FL 15" RCP(E)=1014.85
FL 15" RCP(S)=1016.75
 35. CATCH BASIN
GRATE EL=1022.33
FL 15" RCP(W)=1018.28
FL 6" CP(S)=1020.08
 36. CATCH BASIN
GRATE EL=1022.07
FL 12" RCP(W)=1019.32
 37. CURB INLET
GRATE EL=1020.35
FL 15" RCP(W)=1017.85
FL 12" RCP(W)=1017.80
FL 6" PVC(W)=1017.95
 38. CURB INLET
GRATE EL=1020.12
FL 15" RCP(W)=1017.32
FL 15" RCP(S)=1017.37
 39. STORM MANHOLE
GRATE EL=1018.80
FL 18" CP(W)=1018.80
FL 18" CP(E)=1018.80
FL 18" CP(S)=1018.80
 40. STORM MANHOLE
GRATE EL=1014.02
FL 21" CP(W)=1008.02
FL 18" CP(E)=1010.72
FL 21" CP(S)=1008.67
 41. CATCH BASIN
GRATE EL=1021.17
FL 12" CP(W)=1010.77

DATUM & BASIS OF BEARINGS
THE BEARINGS ARE BASED ON OHIO STATE
PLANE COORDINATES, GRID NORTH
TO DETERMINE GRID NORTH THE OHIO
DEPARTMENT OF TRANSPORTATION'S REAL TIME
NETWORK WAS USED. THE REFERENCE DATUM
AND REFERENCE FRAME ARE NAD83 (2011).

- LEGEND:
- 3/4" STEEL ROD W/DEIBEL CAP SET (UNLESS OTHERWISE NOTED)
 - SUMMIT COUNTY MONUMENT
 - MONUMENTATION FOUND (AS NOTED)
 - DENOTES RECORD INFORMATION
 - MAP NAIL SET
 - CENTERLINE ROAD
 - RIGHT-OF-WAY
 - OVERHEAD UTILITY LINE
 - UNDERGROUND GAS LINE
 - UNDERGROUND WATER LINE
 - UNDERGROUND ELECTRIC
 - UNDERGROUND COMMUNICATION LINE
 - UNDERGROUND FIBER OPTIC LINE
 - FENCE (AS NOTED)
 - QUADRANT
 - SQUARE CATCH BASIN
 - CURB INLET
 - YARD DRAIN
 - STORM/SANITARY MANHOLE (AS NOTED)
 - FLOW LINE
 - WATER VALVE
 - GAS VALVE
 - GAS VENT PIPE
 - FIRE HYDRANT
 - DECIDUOUS TREE
 - CONIFEROUS TREE
 - BUSH
 - BENCH MARK
 - MAILBOX
 - QUIRY WIRE
 - UTILITY POLE
 - UTILITY POLE W/LIGHT
 - SIGN (AS NOTED)
 - GAS LINE MARKER
 - ELECTRIC LINE MARKER
 - SANITARY LINE MARKER
 - WATER LINE MARKER
 - ELECTRIC BOX
 - CABLE LINE MARKER
 - CLEAN-OUT
 - TRAFFIC VAULT
 - ELECTRIC VAULT
 - A/C UNIT
 - ELECTRIC METER
 - GAS METER
 - GREASE TRAP MANHOLE
 - GREASE TRAP ACCESS
 - COMMUNICATION BOX
 - CABLE PEDESTAL
 - TELEPHONE PEDESTAL
 - LAMP POST
 - MONITORING WELL
 - TRAFFIC SIGNAL POLE
 - HANDICAP PARKING SYMBOL

- SOURCES USED:
1. PLATS:
 - WESTBRIDGE CROSSING PHASE I - CABINET N, SLIDE 845
 - WESTBRIDGE CROSSING PHASE II - CABINET N, SLIDE 238
 2. CENTERLINE PLAT:
 - SUM-303-(8.13-8.96)(10.70-12.59)(14.00) STREETSBO RD., SUMMIT COUNTY
 - SUM-303-(8.13-8.96)(10.70-12.59)(14.00) STREETSBO RD., SUMMIT COUNTY
 3. SURVEYS:
 - NICHOLAS A. SPAGNULO - DATED 04/1989
 - NICHOLAS A. SPAGNULO - DATED 05/1991
 - NICHOLAS A. SPAGNULO - DATED 11/1991
 - NICHOLAS A. SPAGNULO - DATED 02/1993
 - BRUCE D. CONERY - DATED 10/2007
 - HUDSON 6
 - SUMMIT COUNTY GIS DATA

UTILITY WARNING
THE UNDERGROUND UTILITIES SHOWN HEREON HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS PROVIDED BY THE UTILITY COMPANIES.
THE SURVEYOR MAKES NO GUARANTEE THE UNDERGROUND UTILITIES SHOWN COMPLETE. ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED, THE SURVEYOR FURTHER DOES NOT WARRANT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED. HE DOES CERTIFY THEY ARE LOCATED AS ACCURATE AS POSSIBLE FROM THE INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED UNDERGROUND UTILITIES.

TWO WORKING DAYS BEFORE YOU DIG CALL THE OHIO UTILITIES PROTECTION SERVICE (OUPS) TOLL FREE 1-800-362-2764

Point		Easting		Northing		Elevation		Description	
CTRL #70		2247681.67		1035.94		3/4" ROD W/DEIBEL CAP SET			
CTRL #71		2248226.21		1029.24		3/4" ROD W/DEIBEL CAP SET			
CTRL #72		2247851.88		1026.65		3/4" ROD W/DEIBEL CAP SET			

Point		Easting		Northing		Elevation		Description	
BM #50		2247283.09		1020.93		"X" ON SOUTH CORNER OF CURB INLET			
BM #51		2247376.26		1025.06		"X" ON S.E. CORNER OF FIRE HYDRANT			
BM #52		2248282.31		1029.11		"X" ON NORTH R/W OF SANITARY MANHOLE			
BM #53		2248562.78		1013.20		"X" ON NORTH R/W OF SANITARY MANHOLE			
BM #54		2248562.52		1017.27		"X" ON S.W. CORNER OF FIRE HYDRANT			
BM #55		2247847.59		1016.71		"X" ON S.W. CORNER OF CURB INLET			
BM #57		2247298.94		1013.49		EAST CORNER OF CONCRETE AROUND ELEC. BOX			

ALTA/NSPS LAND TITLE SURVEY
BEING PART OF ORIGINAL LOTS 31 AND 41
LOCATED IN HUDSON TOWNSHIP,
SUMMIT COUNTY, OHIO

INFO@DSIOHIO.COM
1850 KIMBALL RD. S.E.
CANTON, OHIO 44707
OFFICE (330)455-2999
FAX (330)455-3299
WWW.DSIOHIO.COM

deibel
surveying
INC

SCALE:
HORIZ. 1" = 50'
VERT. 1" = 10'
PROJECT NO.
24828
SHEET NO. OF
2

DATE: 07/02/2024
BY: [Signature]
DRAWN BY: [Signature]
CHECKED BY: [Signature]
APPROVED BY: [Signature]

DESCRIPTION:
REVISIONS TO WATERLINE, SANITARY LINE, ADD MH RIM ELEVATIONS & ADDITIONAL CATCH BASIN
REVISIONS TO WESTBRIDGE CROSSING PHASE I & II
REVISIONS TO SANITARY SEWER LATERAL SIZES PER PLANS

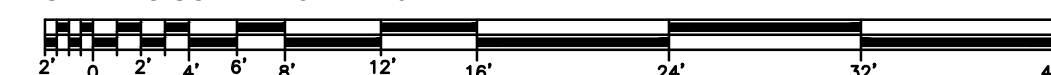
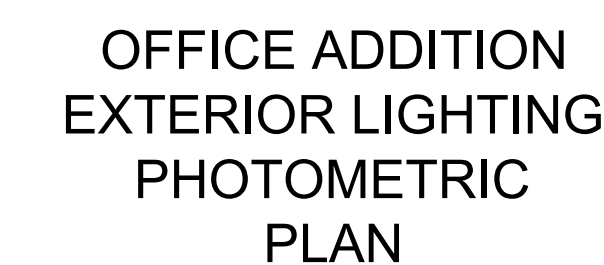
750 W Streetsboro St
Hudson, OH 44236



PROJECT No. 24.001

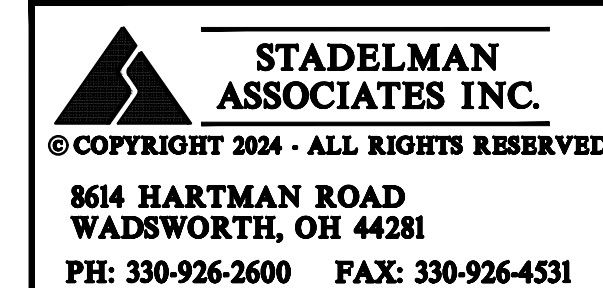
DRAWING UPDATES

PLANNING COMMISSION
06/12/2025

KEY PLAN



LIGHTING FIXTURE SCHEDULE								
TYPE AND SYMBOL	NO. OF LAMPS AND TYPE	LAMP WATTS	FIXTURE WATTS	VOLTS	MANUFACTURER CATALOG NO.	DIFFUSING LENS	MOUNTING	DESCRIPTION
 B15	LED 1500 LUMENS 35K, 80 CRI	19	19	120/277	LITHONIA LDN4 AL02 SWW1 L04 AR TRW LSS MVOLT UGZ	DIFFUSING OPTICAL LENS	RECESSED IN CEILING	4" DIAMETER OPEN LED DOWNLIGHT WITH WHITE TRIM RING AND 0-10V DIMMING.SELECT LUMENS AND COLOR. RENDERING AS INDICATED IN THIS SCHEDULE. LISTED FOR WET LOCATIONS WITH COVERED CLGS. NON-IC RATED.
 SW	LED 4000K 80 CRI	14	14	120/277	LITHONIA OLWJ LED P1 40K MVOLT ODR	POLYCARBONATE LENS	WALL MOUNTED EXTERIOR	LED WALL MOUNTED EXTERIOR WALL SCONCE WITH UP/DOWN LIGHT DISTRIBUTION. DARK BRONZE FINISH.



FEATURES & SPECIFICATIONS

INTENDED USE — Typical applications include corridors, lobbies, conference rooms and private offices.

CONSTRUCTION — Galvanized steel mounting/plaster frame; galvanized steel junction box with bottom-hinged access covers and spring latches. Reflectors are retained by torsion springs. Vertically adjustable mounting brackets with commercial bar hangers provide 3-3/4" total adjustment. Two combination 1/2"-3/4" and four 1/2" knockouts for straight-through conduit runs. Capacity: 8 (4 in, 4 out). No. 12 AWG conductors, rated for 90°C.

Accommodates 12"-24" joist spacing.

Passive cooling thermal management for 25°C standard. Light engine and drivers are accessible from above or below ceiling.

Ceiling thickness range 1/2" to 1-1/2".

OPTICS — 55° cutoff to source and source image

LEDs are binned to a 3-step MacAdam Ellipse

80 CRI standard. 90 CRI optional.

A+ CAPABLE LUMINAIRE — This item is an A+ capable luminaire, which has been designed and tested to provide consistent color appearance and out-of-the-box control compatibility with simple commissioning when used with Acuity Brands controls products. All configurations of this luminaire are calibrated and tested to meet the Acuity Brands' specifications for chromatic consistency — including color rendering, color fidelity and color temperature tolerance around standard CIE chromaticity coordinates. To learn more about A+ standards, specifications, and testing visit www.acuitybrands.com/aplus.

UGR — UGR is zero for fixtures aimed at nadir with a cut-off equal to or less than 60 degree per CIE 117-1996 Discomfort Glare in Interior Lighting. [UGR FAQs](#)

ELECTRICAL — Adjustable lumen output with four module options.

MVOLT 120/277V 50/60Hz driver (0-10V & 120V Phase Dimming to 10% or 1% min dimming level). DALI driver dimming to 1% also available

FCC CFR Title 47 Part 15 Class A for 277V. FCC CFR Title 47 Part 15 Class B for 120V.

Lumen Maintenance

L80 @ 60,000 hours

LISTINGS — Certified to US and Canadian safety standards. **Wet location, requires covered ceiling.** Title 24 compliant (90CRI, up to 1000lm). Wallwash suitable for damp locations only. Drivers are ROHS compliant.

WARRANTY — 5-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at: www.acuitybrands.com/support/warranty/terms-and-conditions

Note: Actual performance may differ as a result of end-user environment and application.

All values are design or typical values, measured under laboratory conditions at 25 °C.

Specifications subject to change without notice.

PERFORMANCE DATA

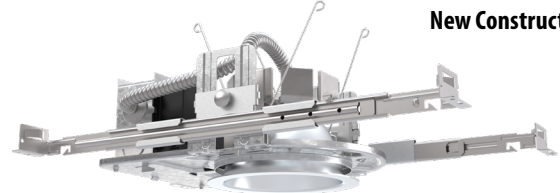
LDN4 AR LS		80CRI							
Lumen Output	Wattage	30K/80CRI		35K/80CRI		40K/80CRI		50K/80CRI	
		Delivered Lumens	LPW	Delivered Lumens	LPW	Delivered Lumens	LPW	Delivered Lumens	LPW
ALO1 (500LM)	6	570	99	584	101	597	102	616	105
ALO1 (750LM)	9	903	102	924	103	946	105	975	108
ALO1 (1000LM)	13	1268	98	1297	100	1328	102	1369	104
ALO2 (1000LM)	13	1344	108	1375	110	1408	112	1451	115
ALO2 (1500LM)	19	1961	105	2007	106	2055	108	2118	111
ALO2 (2000LM)	25	2471	99	2528	101	2588	103	2668	105
ALO3 (2000LM)	25	2542	103	2601	104	2663	106	2745	109
ALO3 (2500LM)	32	3069	98	3140	99	3214	101	3314	103
ALO3 (3000LM)	38	3485	93	3566	94	3651	96	3764	98
ALO4 (4000LM)	39	4094	106	4178	108	4262	110	4303	111
ALO4 (4500LM)	44	4519	103	4611	105	4703	107	4750	108
ALO4 (5000LM)	49	4914	100	5015	102	5115	104	5165	105

- Tested in accordance with IESNA LM-79-08.
- Tested to current IES and NEMA standards under stabilized laboratory conditions.
- CRI: 80 typical

Catalog Number
Notes
Type

LDN4 SWITCHABLE

**4" Open and Wallwash LED
IC and Non-IC
New Construction Downlight**

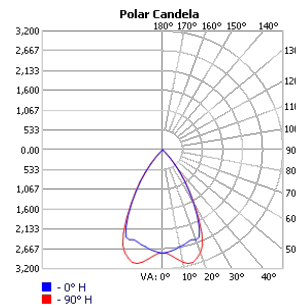


Open Trim

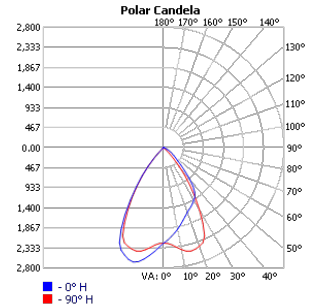


Wallwash Trim

DISTRIBUTIONS



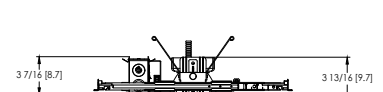
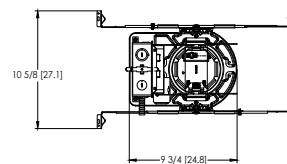
OPEN



Wallwash

DIMENSIONS

LDN4 500-2000 Lumens



Aperture: Ø 4-5/16" [11]
Ceiling Cutout: Ø 5-1/8" [13] Self-flanged
Overlap Trim: Ø 5-7/16" [13.8]
Ceiling Cutout: Ø 5-1/4" [13.3] Flangeless

See page 5 for other fixture dimensions.



LDN4 SWW



Design Select options indicated by this color background.

ORDERING INFORMATION

Lead times will vary depending on options selected. Consult with your sales representative.

Example: LDN4 ALO2 SWW1 L04 AR LSS MVOLT UGZ

LDN4								
Series	Lumens ‡	Color Temperature ‡	Trim Style	Trim Color	Flange Color ‡	Trim Finish	Distribution	Voltage
LDN4 4" Round	Adjustable Lumen Output ALO1 500/750/1000lm ALO2 1000/1500/2000lm ALO3 2000/2500/3000lm ALO4 4000/4500/5000lm Fixed Lumen Output 05LM 500lm 07LM 750lm 10LM 1000lm 15LM 1500lm 20LM 2000lm 25LM 2500lm 30LM 3000lm 40LM 4000lm 45LM 4500lm 50LM 5000lm	Switchable CCT SWW1 3000K-3500K-4000K-5000K Fixed Switchable CCT 27K 2700K 30K 3000K 35K 3500K 40K 4000K 50K 5000K	L04 Downlight LW4 Wallwash	AR Clear WR ‡ White painted BR ‡ Black painted TRALTBDD ‡ RAL paint trim TCPC ‡ Custom paint trim	(blank) Self-flange TRW White TRBL Black FRALTBDD RAL paint flange only FCPC Custom paint flange only	LSS Semi-specular LD Matte diffused LS Specular	(blank) Medium Wide (1.0s/mh) WD Wide (1.2s/mh)	MVOLT 120V - 277V 347 347V step-down transformer supplied

Driver	Emergency ‡	Control Input ‡	Options
UGZ Universal dimming to 10% 0-10V; line voltage dimming (120V) UGZ1 Universal dimming to 1% 0-10V; line voltage dimming (120V) DALI ‡ DALI dimming to 1% D10 Minimum dimming 10% driver for use with JOT D1 Minimum dimming 1% driver for use with JOT D1 Minimum dimming 1% driver for use with JOT	Blank No emergency option EL Battery pack (10W constant power) Non-T20 Compliant, integral test switch ELR Battery pack (10W constant power) Non-T20 Compliant, remote test switch E10WCP Battery pack (10W constant power) T20 Compliant, integral test switch E10WCPR Battery pack (10W constant power) T20 Compliant, remote test switch E10WRSTAR Emergency battery pack, 10W with remote test switch and Iota STAR technology ETS Iota Emergency Transfer System	Blank No control option NPS80EZ nLight® network power/relay pack with 0-10V dimming NPS80EZER nLight® network power/relay pack with 0-10V dimming; ER controls fixtures on emergency circuit. NLTAIR2 nLight® Air enabled NLTAIRER2 nLight® AIR Dimming Pack Wireless Controls. Controls fixtures on emergency circuit NLTAIREM2 nLight® AIR Dimming Pack Wireless Controls. UL924 Emergency Operation, via power interrupt detection. JOT Wireless room control with "Just One Touch" pairing	90CRI High CRI (90+) AT ‡ Airtight (IP55) CP ‡ Chicago Plenum

‡ Option Restrictions

Options	Restriction
AT	Lumens and Color Temp restriction note: Fixed Lumens and CCT must be specified together (for example: 10LM 30K). Standard for CP and IP55, not available with WW
E10WCPR	Not available EC1, EC6, QDS, CP, 347V, NPS80EZ ER, NLTAIRER2, NLTAIREM2, or ALO3 (2000-3000L) DALI.
E10WCP	Not available with EC1, EC6, AT, QDS, CP, 347V, NPS80EZ ER, NLTAIRER2, NLTAIREM2, ALO3 (2000-3000L) DALI, OR WL.
E10WRSTAR	Not available with wet location, EC1, EC6, QDS, CP, 347V, NPS80EZ ER, NLTAIRER2, NLTAIREM2, ALO3 & ALO4 w/DALI, OR 2000-4500 lumens w/JOT. Top access installation or 17.5" plenum clearance required for roomside installation. Not available with integral test switch.
ELR	Not available EC1, EC6, QDS, CP, 347V, NPS80EZ ER, NLTAIRER2, NLTAIREM2, or ALO3 (2000-3000L) DALI.
EC6	Not Available with CP, QDS, ELR, E10WCP, or E10WCPR.
WL	Not available with WW, All CP is wet location, except WW (Damp). IP55 rated.
QDS	Not Available with CP, ELR, E10WCP, or E10WCPR.
EC1	Not Available with CP, QDS, ELR, E10WCP, or E10WCPR.
JOT	Not available with CP, NPS80EZ, NPS80EZ ER, NLTAIR2, NLTAIRER2, NLTAIREM2, UGZ, or DALI drivers. Max 4500 lumens. Fixed lumens and CCT only.
NPS80EZ	Not available with CP, QDS, DALI, D1, OR D10 drivers. 120V OR 277V only. Not available with 347V.
NPS80EZER	Not available with CP, QDS, ELR, E10WCP, E10WCPR, DALI, D1, OR D10 drivers. 120V OR 277V only. Not available with 347V.
NLTAIR2	Not available with CP, QDS, DALI, D1, OR D10 drivers. Non-emergency luminaires with this option can be used as a normal power sensing device for nLight AIR devices and luminaires with EM emergency options.
NLTAIRER2	Not available with CP, QDS, ELR, E10WCP, E10WCPR, DALI, D1, OR D10 drivers. Not available with 347V.
NLTAIREM2	Not available with CP, QDS, ELR, E10WCP, E10WCPR, DALI, D1, OR D10 drivers. See UL 924 Sequence of Operation table.
CP	Not available with, QDS, EC1, EC6, ELR, E10WCP, E10WCPR, 347V, JOT, NPS80EZ, NPS80EZ ER, NLTAIR2, NLTAIRER2, NLTAIREM2, D1, OR D10 drivers. Not available with square trim.
ETS	Not available with, QDS, ELR, E10WCP, E10WCPR, 347V, JOT, NPS80EZ, NPS80EZ ER, NLTAIR2, NLTAIRER2, NLTAIREM2, DALI, D1, OR D10 driver
DALI	Not available with fixed lumens or CCT. Max 4500 lumens.
WW	Not available with WL, EL, E10WCP.
TRW , TRBL	Available with clear (AR) reflector only.
WR, BR	Not available with a reflector finish
347V	Not available with CP, QDS, EL, ELR, E10WCP, E10WCPR, NLTAIRER2, ETS, NPS80EZ, NPS80EZER, ALO1 ROUND TRIM, 05 LUMENS ROUND TRIM, AND 07 ROUND TRIM.
TRALTBDD, FRALTBDD	RALTBDD for pricing only. Replace with applicable RAL number and finish when ready to order. See the RAL BROCHURE for available color options.
TCPC, FCPC	CPC options for pricing only. Custom color chip needs to be sent in to your Customer Resolution specialist before order can be processed. Click HERE for more details

Accessories: Order as a separate catalog number.	
L04 AR ** TRIM	4" clear, specular reflector (** specify finish LS, LSS, or LS)
L04 WR TRIM	4" white reflector
L04 BR TRIM	4" black reflector
LW4 AR ** TRIM	4" wallwash clear, specular reflector (** specify finish LS, LSS, or LS)
LW4 WR TRIM	4" wallwash white reflector
LW4 BR TRIM	4" wallwash black reflector
GRA4 6 JZ	Oversized trim ring with 6" outside diameter
SCA4	Sloped Ceiling Adapter. Degree of slope must be specified (SD, 10D, 15D, 20D, 25D, 30D). Ex: SCA6 10D.



Items marked by a shaded background qualify for the Design Select program and ship in 15 days or less. To learn more about Design Select, visit www.acuitybrands.com/designselect.
*See ordering tree for details

(Maximum order quantity for design select lead times is 256)

EMERGENCY BATTERY PACK OPTIONS - FIELD INSTALLABLE

Battery Model Number	Wattage	Runtime (Minutes)	Lumen Output* @ 120 Lumens/Watt	Other
ILB CP07 2H A	7W	120	840	Storm Shelter / 2 Hour Runtime
ILB CP10 A	10W	90	1200	
ILBLP CP10 HE SD A+	10W	90	1200	Title 20, Self Diagnostic
ILBLP CP15 HE SD A+	15W	90	1800	Title 20, Self Diagnostic
ILB CP20 HE A	20W	90	2400	Title 20
ILB CP20 HE SD A	20W	90	2400	Title 20, Self Diagnostic
ILBHI CP10 HE SD A+	10W	90	1200	347-480V AC Input, Title 20, Self Diagnostic
ILBHI CP15 HE SD A+	15W	90	1800	347-480V AC Input, Title 20, Self Diagnostic

All the above are UL Listed products that are certified for field install external/remote to the fixture.
* Minimum delivered lumen output to assist in product selection for increased fixture mounting height.
+ The CP10 delivered emergency illumination outperforms legacy 1400 lumen fluorescent emergency ballast.
Please contact us at techsupport@iotaengineering.com for any Emergency Battery related questions.

PHOTOMETRY

LDN4 AR LS		90CRI							
Lumen Output	Wattage	30K/90CRI		35K/90CRI		40K/90CRI		50K/90CRI	
		Delivered Lumens	LPW	Delivered Lumens	LPW	Delivered Lumens	LPW	Delivered Lumens	LPW
ALO1 (500LM)	6	498	87	512	88	526	90	539	92
ALO1 (750LM)	9	789	89	810	91	832	92	853	94
ALO1 (1000LM)	13	1108	86	1138	88	1168	89	1198	91
ALO2 (1000LM)	13	1174	95	1206	97	1238	99	1270	100
ALO2 (1500LM)	19	1714	91	1761	93	1807	95	1854	97
ALO2 (2000LM)	25	2159	87	2218	89	2276	91	2335	92
ALO3 (2000LM)	25	2222	90	2282	92	2342	94	2402	95
ALO3 (2500LM)	32	2682	85	2755	87	2827	89	2900	91
ALO3 (3000LM)	38	3046	81	3129	83	3211	85	3294	86
ALO4 (4000LM)	39	3398	88	3468	90	3537	91	3572	92
ALO4 (4500LM)	44	3751	85	3827	87	3904	89	3942	90
ALO4 (5000LM)	49	4079	83	4162	84	4245	86	4287	87

LDN4WW AR LS		80CRI							
Lumen Output	Wattage	30K/80CRI		35K/80CRI		40K/80CRI		50K/80CRI	
		Delivered Lumens	LPW	Delivered Lumens	LPW	Delivered Lumens	LPW	Delivered Lumens	LPW
ALO1 (500LM)	6	561	97	574	99	587	101	606	103
ALO1 (750LM)	9	888	100	908	101	930	103	959	106
ALO1 (1000LM)	13	1246	97	1275	98	1305	100	1346	102
ALO2 (1000LM)	13	1321	106	1352	108	1384	110	1427	113
ALO2 (1500LM)	19	1928	103	1973	105	2020	106	2083	109
ALO2 (2000LM)	25	2429	98	2485	99	2544	101	2623	104
ALO3 (2000LM)	25	2499	101	2557	103	2618	105	2699	107
ALO3 (2500LM)	32	3017	96	3087	98	3160	99	3258	102
ALO3 (3000LM)	38	3426	91	3506	93	3589	95	3700	97
ALO4 (4000LM)	39	4031	104	4113	106	4195	108	4236	109
ALO4 (4500LM)	44	4449	101	4539	103	4630	105	4676	107
ALO4 (5000LM)	49	4838	98	4937	100	5035	102	5085	103

LDN4WW AR LS		90CRI							
Lumen Output	Wattage	30K/90CRI		35K/90CRI		40K/90CRI		50K/90CRI	
		Delivered Lumens	LPW	Delivered Lumens	LPW	Delivered Lumens	LPW	Delivered Lumens	LPW
ALO1 (500LM)	6	490	85	503	87	517	89	530	90
ALO1 (750LM)	9	776	87	797	89	818	91	839	93
ALO1 (1000LM)	13	1089	84	1119	86	1148	88	1178	90
ALO2 (1000LM)	13	1155	93	1186	95	1217	97	1248	99
ALO2 (1500LM)	19	1685	90	1731	92	1777	94	1822	95
ALO2 (2000LM)	25	2123	85	2180	87	2238	89	2295	91
ALO3 (2000LM)	25	2184	88	2243	90	2302	92	2362	94
ALO3 (2500LM)	32	2637	84	2708	86	2780	87	2851	89
ALO3 (3000LM)	38	2994	80	3076	81	3157	83	3238	85
ALO4 (4000LM)	39	3346	86	3414	88	3482	90	3516	91
ALO4 (4500LM)	44	3692	84	3768	86	3843	88	3881	88
ALO4 (5000LM)	49	4015	81	4097	83	4179	85	4220	86

LUMEN OUTPUT MULTIPLIERS - FINISH	
Specular (LS)	1.05
Semi-specular (LSS)	1.00
Matte diffuse (LD)	0.85

LUMEN OUTPUT MULTIPLIERS - CCT			
3000K	3500K	4000K	5000K
0.98	1.0	1.01	1.03

LUMEN OUTPUT MULTIPLIERS - CRI	
80	1.0
90	0.874

HOW TO ESTIMATE DELIVERED LUMENS IN EMERGENCY MODE

Use the formula below to estimate the delivered lumens in emergency mode

Delivered Lumens = 1.25 x P x LPW

P = Ouput power of emergency driver. P = 10W for PS1055CP

LPW = Lumen per watt rating of the luminaire. This information is available on the ABL luminaire spec sheet.

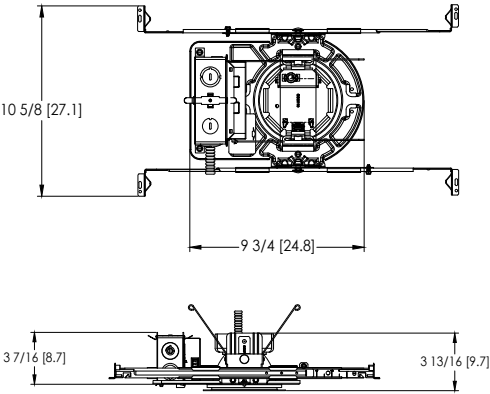
The LPW rating is also available at [Designlight Consortium](#).

LDN4 SWW

* All dimensions are inches (centimeters) unless otherwise noted.

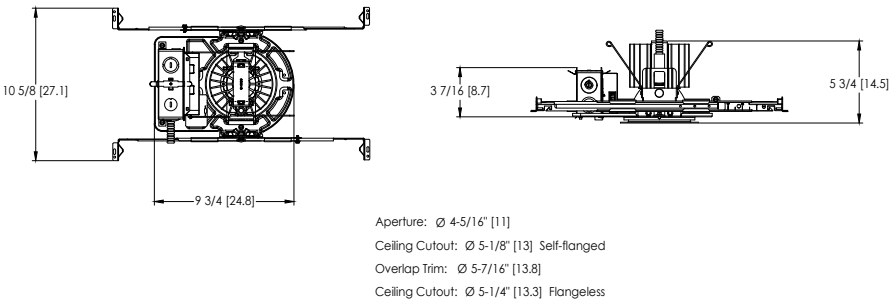
LDN4 SWW1 IC RATING	
AL01	IC
AL02	NON-IC
AL03	NON-IC

LDN4 SWW1 500-2000 Lumens



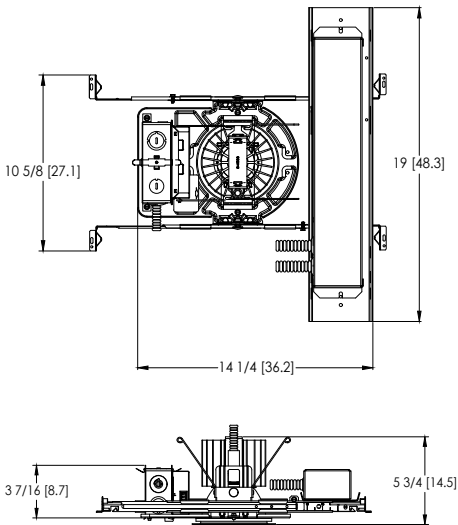
Aperture: Ø 4-5/16" [11]
Ceiling Cutout: Ø 5-1/8" [13] Self-flanged
Overlap Trim: Ø 5-7/16" [13.8]
Ceiling Cutout: Ø 5-1/4" [13.3] Flangeless

LDN4 SWW1 2500-4000 Lumens



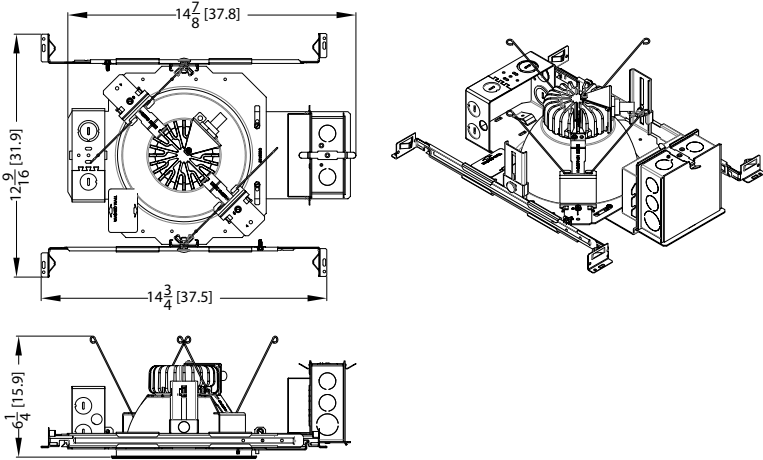
Aperture: Ø 4-5/16" [11]
Ceiling Cutout: Ø 5-1/8" [13] Self-flanged
Overlap Trim: Ø 5-7/16" [13.8]
Ceiling Cutout: Ø 5-1/4" [13.3] Flangeless

LDN4 SWW1 EL



Aperture: Ø 4-5/16" [11]
Ceiling Cutout: Ø 5-1/8" [13] Self-flanged
Overlap Trim: Ø 5-7/16" [13.8]
Ceiling Cutout: Ø 5-1/4" [13.3] Flangeless

LDN4 SWW1 CP 500-3000 Lumens



DIMMER COMPATIBILITY

Not compatible with DALI or DMX dimmers. For specific compatible dimmers see below.

COMPATIBLE LINE VOLTAGE DIMMERS:						
Type	Forward Phase	ALO1 (500-1000lm)	ALO2 (1000-2000lm)	ALO3 (2000-3000lm)	ALO4 (3000-5000lm)	Comment
MLV	Sensorswitch WPD	YES	YES	YES	YES	
MLV	Sensorswitch CMR PDT10 ADC VLP	YES	YES	YES	YES	
MLV	Synergy ISD 600LV	YES, 2x *	YES	YES	YES	* min 2 fixtures
INC	Synergy ISD 600 I	YES, 2x *	YES	YES	YES	* min 2 fixtures
MLV	Lutron Glyder GLV-600	YES	YES	YES	YES	
INC	Leviton SureSlide 6633	YES	YES	YES	YES	
MLV	Lutron Diva DVLV-600P	YES	YES	YES	YES	
MLV	Lutron Skylark SLV-600P	YES	YES	YES	YES	
INC	Lutron RadioRA 2 10ND	YES	YES	YES	YES	
MLV	Leviton SureSlide 6613-PLW	YES	YES	YES	YES	
INC	Lutron Diva DVCL-153P	YES	YES	YES	YES	
MLV	Leviton IPM06	YES, 2x *	YES	YES	YES	* min 2 fixtures
Type	Reverse Phase Dimmer Bank	ALO1 (500-1000lm)	ALO2 (1000-2000lm)	ALO3 (2000-3000lm)	ALO4 (3000-5000lm)	
ELV	Lutron Nova T NTELV-600	YES	YES	YES	YES	
ELV	Lutron Diva DVELV 600P	YES	YES	YES	YES	
ELV	Lutron Maestro MAELV 600	YES	YES	YES	YES	
ELV	Leviton Vizia VPE06-1LX	YES	YES	YES	YES	
ELV	Leviton Illumatech IPE04	YES	YES	YES	YES	
ELV	Control4 C4-APD 120 REVERSE PHASE	YES	YES	YES	YES	
Type	Miscellaneous Dimmers	ALO1 (500-1000lm)	ALO2 (1000-2000lm)	ALO3 (2000-3000lm)	ALO4 (3000-5000lm)	
PHA	Lutron RadioRA2 RRD-6NA	YES	YES	YES	YES	
PHA	Lutron Maestro PRO LED+ RRD-PRO	YES	YES	YES	YES	
Type	Control Systems	ALO1 (500-1000lm)	ALO2 (1000-2000lm)	ALO3 (2000-3000lm)	ALO4 (3000-5000lm)	
MLV	Lutron LP-RPM-4U	YES	YES	YES	YES	
PHA	Lutron LP-RPM-4A	YES	YES	YES	YES	
MLV	Lutron GRAPHIC EYE QSGRJ-3P	YES	YES	YES	YES	
PHA	Lutron PA Power Module PHPM-PA-120	YES	YES	YES	YES	
ELV	Lutron nLight nSP5PCD ELV	YES	YES	YES	YES	

COMPATIBLE 0-10V DIMMERS:							
Manufacturer	System Type	Description	P/N	ALO1 (500-1000lm)	ALO2 (1000-2000lm)	ALO3 (2000-3000lm)	ALO4 (3000-5000lm)
ACUITY	Wall Box	sensorswitch, dimming switch with multi-way option	SPODMRA	YES	YES	YES	YES
ACUITY	Wall Box	sensorswitch, wall switch sensor, occupancy controlled dimming	WSX D WH	YES	YES	YES	YES
ACUITY	Control System	nLight	nPP16D	YES	YES	YES	YES
ACUITY	Control System	nLight	nPS 80 EZ	YES	YES	YES	YES
ACUITY	Control System	nLight Air	rPP20 D	YES	YES	YES	YES
Lutron	Other	0-10V (sink or source) PowPak wireless dimming module	RMJ-ST-DV-B	YES	YES	YES	YES
Wattstopper	Control System	Digital single relay room controller (0-10V)	LMRC-211	YES	YES	YES	YES
Crestron	Control System	DIN Rail 0-10V fluorescent dimmer, 4 feeds, 4 channels (Green Light System)	DIN-4DIMFLV4	YES	YES	YES	YES
Lutron	Other	Grafik Eye 0-10V adapter	GRX-TV1	YES	YES	YES	YES
Leviton	Wall Box	Illumatech 0-10V	IP710-DLX	YES	YES	YES	YES
Lutron	Control System	Mounted in the Homeworks QS panel - 0-10V dimmer (sink or source)	GRX-TVM2	YES	YES	YES	YES
Lutron	Wall Box	Nova 0-10V wallbox dimmer (use with PP-120-H line voltage relay)	NTFTV	YES	YES	YES	YES
Lutron	Wall Box	Nova 0-10V wallbox dimmer (use with PP-120-H line voltage relay)	NTSTV-DV	YES	YES	YES	YES
Lutron	Wall Box	Nova T	NFTV	YES	YES	YES	YES
Leviton	Wall Box	Renior II 0-10V	AWSMG-7DW	YES	YES	YES	YES

ADDITIONAL DATA



The Sensor Switch JOT enabled solution offers a wireless, app-free approach to single room lighting control. JOT enabled products use Bluetooth® Low Energy (BLE) technology to enable wireless dimming and switching.

Diagram



LDN4 Series



Sensor Switch
WSXA JOT

- 1. **Power:** Install JOT enabled fixtures and controls as instructed.
- 2. **Pair:** Insert the pairing tool into the pinhole on the wall switch; press and hold any button for 6 seconds.
- 3. **Play:** Once paired, each fixture will individually dim down to 10% brightness. All products will be fully functional.

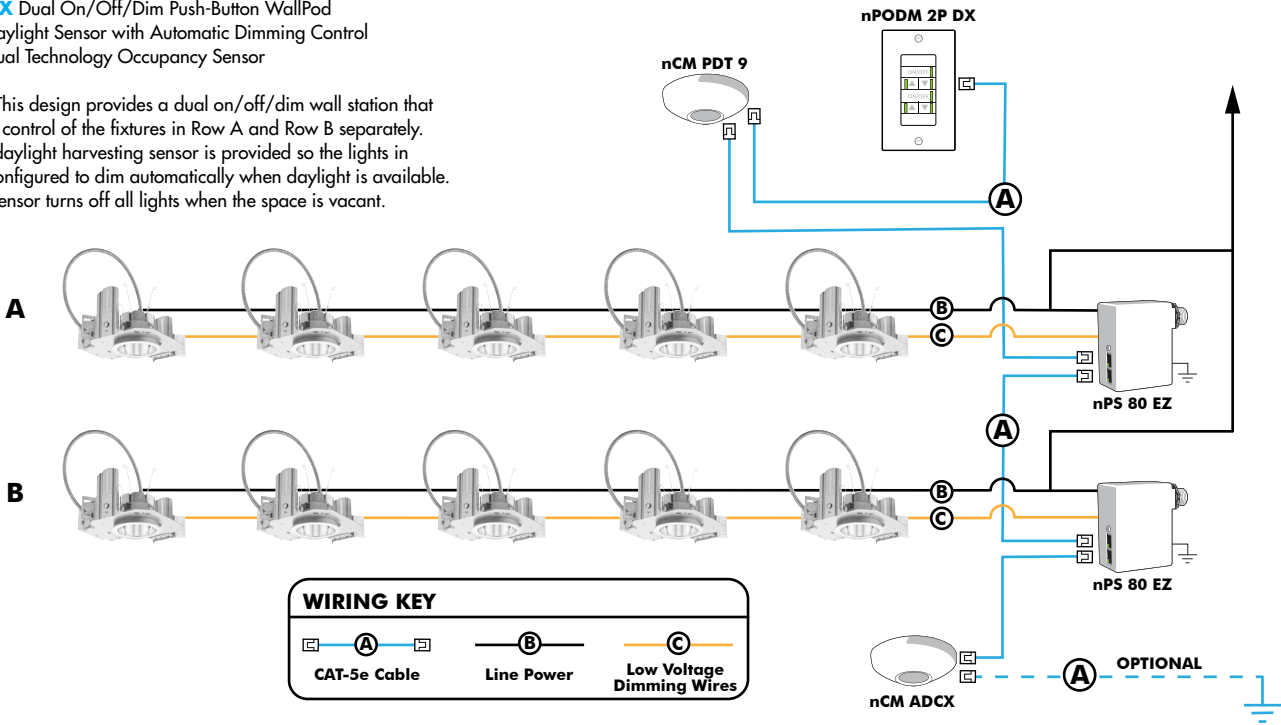
COMPATIBLE 0-10V WALL-MOUNT DIMMERS		
MANUFACTURER	PART NO.	POWER BOOSTER AVAILABLE
Lutron®	Diva® DVTV	
	Diva® DVSCTV	
	Nova T® NTFTV	
	Nova® NFTV	
Leviton®	AWSMT-7DW	CN100
	AWSMG-7DW	PE300
	AMRMG-7DW	
	Leviton Centura Fluorescent Control System	
	IllumaTech® IP7 Series	
Synergy®	ISD BC	RDMFC
	SLD LPCS	
	Digital Equinox (DEQ BC)	
Douglas Lighting Controls	WPC-5721	
Entertainment Technology	Tap Glide TG600FAM120 (120V)	
	Tap Glide Heatsink TGH1500FAM120 (120V)	
	Oasis OA2000FAMU	
Honeywell	EL7315A1019	EL7305A1010 (optional)
	EL7315A1009	
HUNT Dimming	Preset slide: PS-010-IV and PS-010-WH	
	Preset slide: PS-010-3W-IV and PS-010-3W-WH	
	Preset slide, controls FD-010: PS-IFC-010-IV and PS-IFC-010-WH-120/277V	
	Preset slide, controls FD-010: PS-IFC-010-3W-IV and PS-IFC-010-3W-WH-120/277V	
	Remote mounted unit: FD-010	
Lehigh Electronic Products	Solitaire	PBX
PDM Electrical Products	WPC-5721	
Starfield Controls	TR61 with DALI interface port	RT03 DALInet Router
WattStopper®	LS-4 used with LCD-101 and LCD-103	

EXAMPLE

Group Fixture Control*
*Appiication diagram applies for fixtures with eldoLED drivers only.

- nPS 80 EZ Dimming/Control Pack (qty: 2 required)
- nPODM 2P DX Dual On/Off/Dim Push-Button WallPod
- nCM ADCX Daylight Sensor with Automatic Dimming Control
- nCM PDT 9 Dual Technology Occupancy Sensor

Description: This design provides a dual on/off/dim wall station that enables manual control of the fixtures in Row A and Row B separately. Additionally, a daylight harvesting sensor is provided so the lights in Row B can be configured to dim automatically when daylight is available. An occupancy sensor turns off all lights when the space is vacant.



Choose Wall Controls

nLight offers multiple styles of wall controls - each with varying features and user experience.



Push-Button Wallpod
Traditional tactile buttons and LED user feedback



Graphic Wallpod
Full color touch screen provides a sophisticated look and feel

nLight® Wired Controls Accessories:			
Order as separate catalog number. Visit www.acuitybrands.com/products/controls/nlight for complete listing of nLight controls.			
WallPod Stations	Model number	Occupancy sensors	Model Number
On/Off	nPODM (Color)	Small motion 360°, ceiling (PIR/dual Tech)	nCM 9 / nCM PDT 9
On/Off & Raise/Lower	nPOD DX (Color)	Large motion 360°, ceiling (PIR/dual tech)	nCM 10 / nCM PDT 10
Graphic Touchscreen	nPOD GFX (Color)	Wide View (PIR/dual tech)	nWV 16 / nWV PDT 16
Photocell controls	Model Number	Wall Switch w/ Raise/Lower (PIR/dual tech)	nWSX LV DX / nWSX PDT LV DX
Dimming	nCM ADCX	Cat-5 cables (plenum rated)	Model Number
		10', CAT5 10FT	CAT5 10FT J1
		15, CAT5 15FT	CAT5 15FT J1

nLight® AIR Control Accessories:	
Order as separate catalog number. Visit www.acuitybrands.com/products/controls/nlightair .	
Wall switches	Model number
On/Off single pole	rPODB [color]
On/Off two pole	rPODB 2P [color]
On/Off & raise/lower single pole	rPODB DX [color]
On/Off & raise/lower two pole	rPODB 2P DX [color]
On/Off & raise/lower single pole	rPODBZ DX WH¹

Notes

1 Can only be ordered with the RES7Z zone control sensor version.

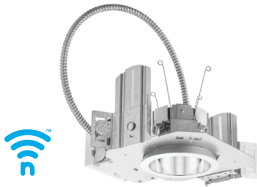
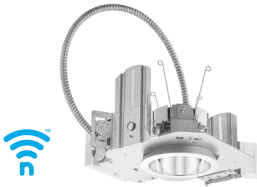
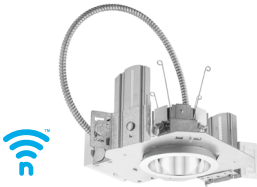
UL924 Sequence of Operation

The below information applies to all nLight AIR devices with an EM option.

- EM devices will remain at their high-end trim and ignore wireless lighting control commands, unless a normal-power-sensed (NPS) broadcast is received at least every 8 seconds.
- Using the CLAIRITY+ mobile app, EM devices must be associated with a group that includes a normal power sensing device to receive NPS broadcasts.
- Only non-emergency rPP20, rLSXR, rSBOR, rSDGR, and nLight AIR luminaires with version 3.4 or later firmware can provide normal power sensing for EM devices. See specification sheets for control devices and luminaires for more information on options that support normal power sensing.

nLight AIR

nLight AIR is the ideal solution for retrofit or new construction spaces where adding communication is cost prohibitive. The integrated nLight AIR rPP20 Power Pack is part of each Lithonia LDN Luminaire. These individually addressable controls offer the ultimate in flexibility during initial setup and for space repurposing.



Simple as 1,2,3

1. Install the nLight® AIR fixtures with embedded smart sensor
2. Install the wireless battery-powered wall switch
3. With CLAIRITY app, pair the fixtures with the wall switch and if desired, customize the sensor settings for the desired outcome



FEATURES & SPECIFICATIONS

INTENDED USE

Provides years of maintenance-free illumination for outdoor use in residential & commercial applications. Ideal for applications such as lighting walkways and stairways for safety and security.

CONSTRUCTION

Cast-aluminum housing with corrosion-resistant paint in either dark bronze or white finish.

ADA compliant.

OPTICS

4000K CCT LEDs.

Polycarbonate lens protects the LED from moisture, dirt and other contaminants.

LUMEN MAINTENANCE: The LED will deliver 70% of its initial lumens at 50,000 hour average LED life. See Lighting Facts label on page 2 for performance details.

ELECTRICAL

MVOLT driver operates on any line voltage from 120-277V

Operating temperature -30°C to 40°C.

1KV surge protection standard.

INSTALLATION

Surface mounts to universal junction box (provided by others).

LISTINGS

UL Listed to U.S. and Canadian safety standards for wet locations.

Tested in accordance with IESNA LM-79 and LM-80 standards.

WARRANTY — 5-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at:

www.acuitybrands.com/support/customer-support/terms-and-conditions

Note: Actual performance may differ as a result of end-user environment and application.

All values are design or typical values, measured under laboratory conditions at 25 °C.

Specifications subject to change without notice.

Catalog
Number

Notes

Type

Outdoor General Purpose

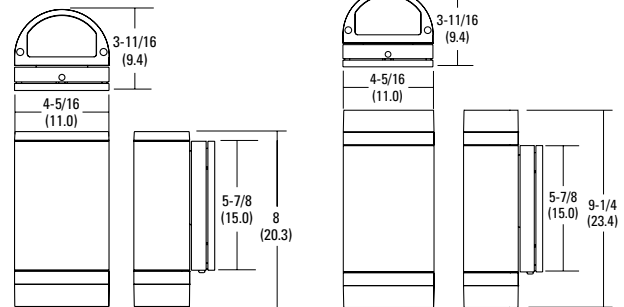
OLLWD & OLLWU

LED WALL CYLINDER LIGHT



Specifications

All dimensions are inches (centimeters)



ORDERING INFORMATION

For shortest lead times, configure products using **bolded options**.

Example: OLLWD LED P1 40K MVOLT DDB

Series	Performance Package	Color temperature (CCT)	Voltage	Finish
OLLWD LED Downlight	P1	40K 4000K	MVOLT 120V-277V	DDB Dark bronze
OLLWU LED Up & downlight			120 120V ¹	WH White ²

Notes

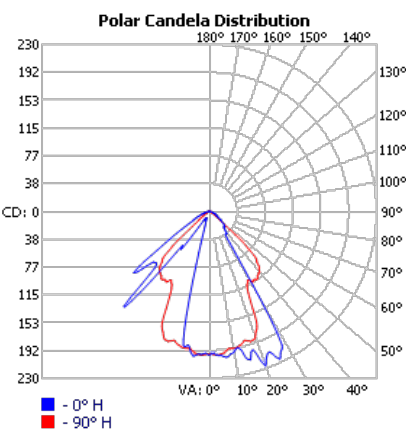
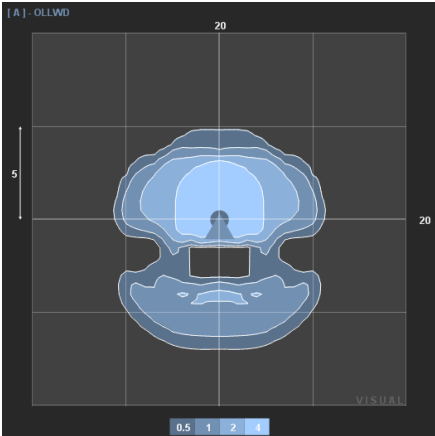
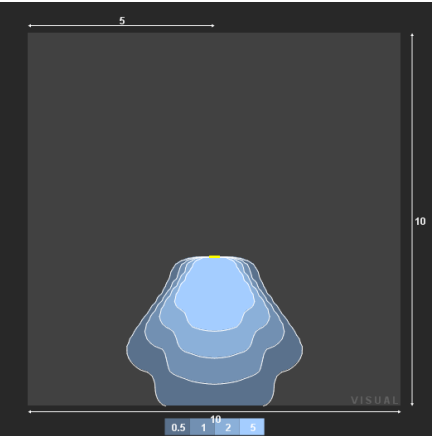
1. Only available with OLLWU and in DDB.
2. Only available with OLLWU.

OLLWD & OLLWU LED Wall Cylinder Light

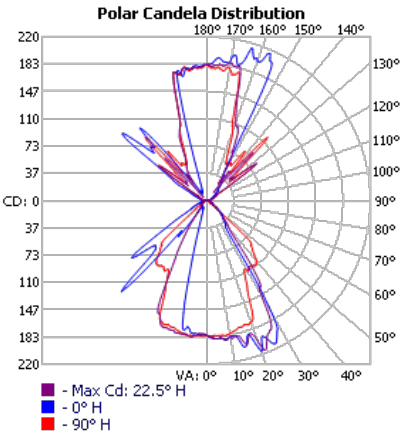
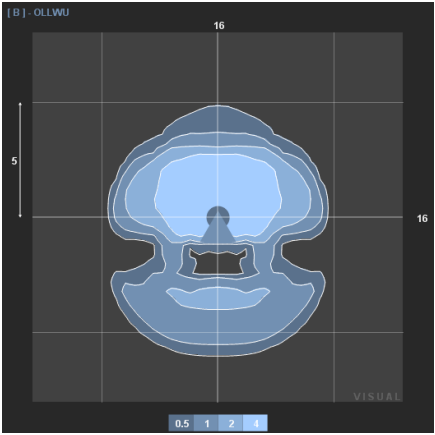
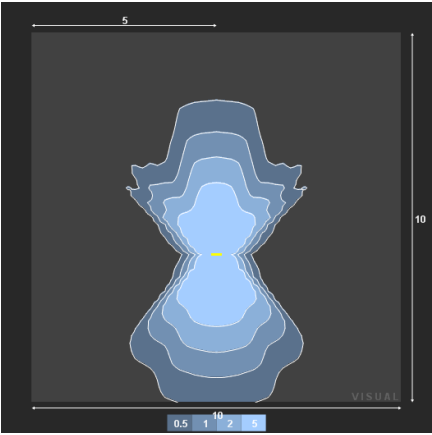
PHOTOMETRICS

To see complete photometric reports or download .ies files for this product, visit Lithonia Lighting's Outdoor LED homepage
Tested in accordance with IESNA LM-79 and LM-80 standards.

OLLWD



OLLWU



LED

Lighting facts®

A Program of the U.S. DOE

Light Output (Lumens)

533

Watts

9.1

Lumens per Watt (Efficacy)

58.63

Color Accuracy

Color Rendering Index (CRI)

70

Light Color

Correlated Color Temperature (CCT)

4000 (Bright White)

Warm White

Bright White

Daylight

2700K

3000K

4500K

6500K

All results are according to IESNA LM-79-2008: Approved Method for the Electrical and Photometric Testing of Solid State Lighting. The U.S. Department of Energy (DOE) verifies product test data and results.

Visit www.lightingfacts.com for the Label Reference Guide.

Registration Number: NUSM-W8FYMF (7/20/2016)

Model Number: OLLWD LED P1 40K XXXXX XXX

Type: Luminaire - Other

LED

Lighting facts®

A Program of the U.S. DOE

Light Output (Lumens)

947

Watts

14

Lumens per Watt (Efficacy)

67.64

Color Accuracy

Color Rendering Index (CRI)

70

Light Color

Correlated Color Temperature (CCT)

4000 (Bright White)

Warm White

Bright White

Daylight

2700K

3000K

4500K

6500K

All results are according to IESNA LM-79-2008: Approved Method for the Electrical and Photometric Testing of Solid State Lighting. The U.S. Department of Energy (DOE) verifies product test data and results.

Visit www.lightingfacts.com for the Label Reference Guide.

Registration Number: NUSM-Y7HNB8 (7/20/2016)

Model Number: OLLWU LED P1 40K XXXXX XXX

Type: Luminaire - Other