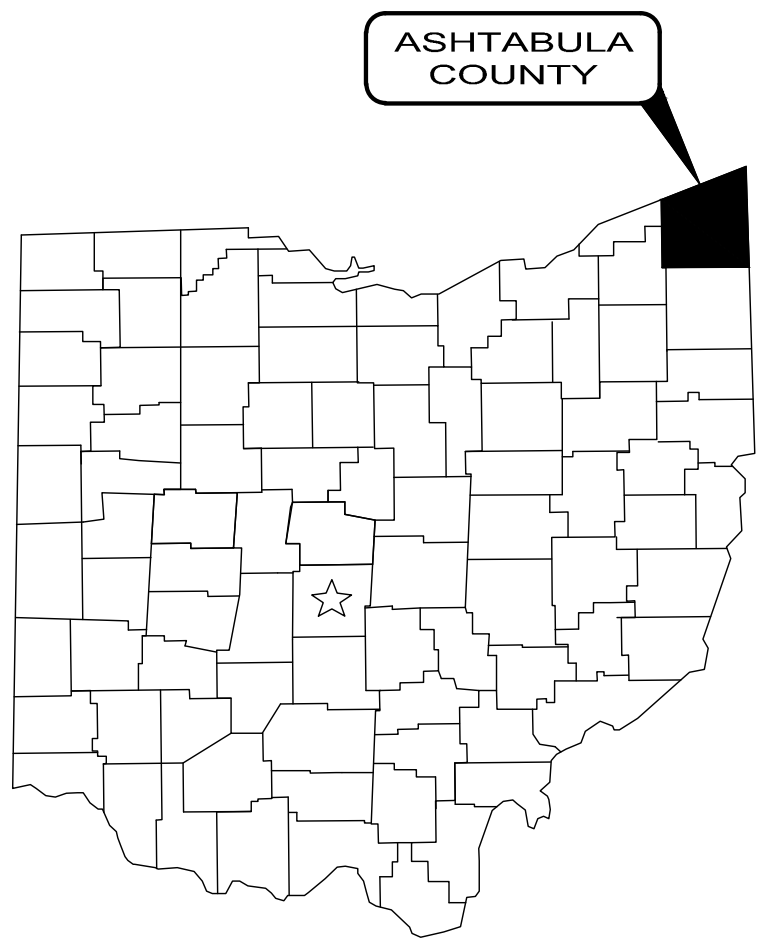


VILLAGE OF JEFFERSON

# JEFFERSON WASTEWATER TREATMENT PLANT CLARIFIER IMPROVEMENTS - PHASE 1

ASHTABULA COUNTY, OHIO

JANUARY 2025



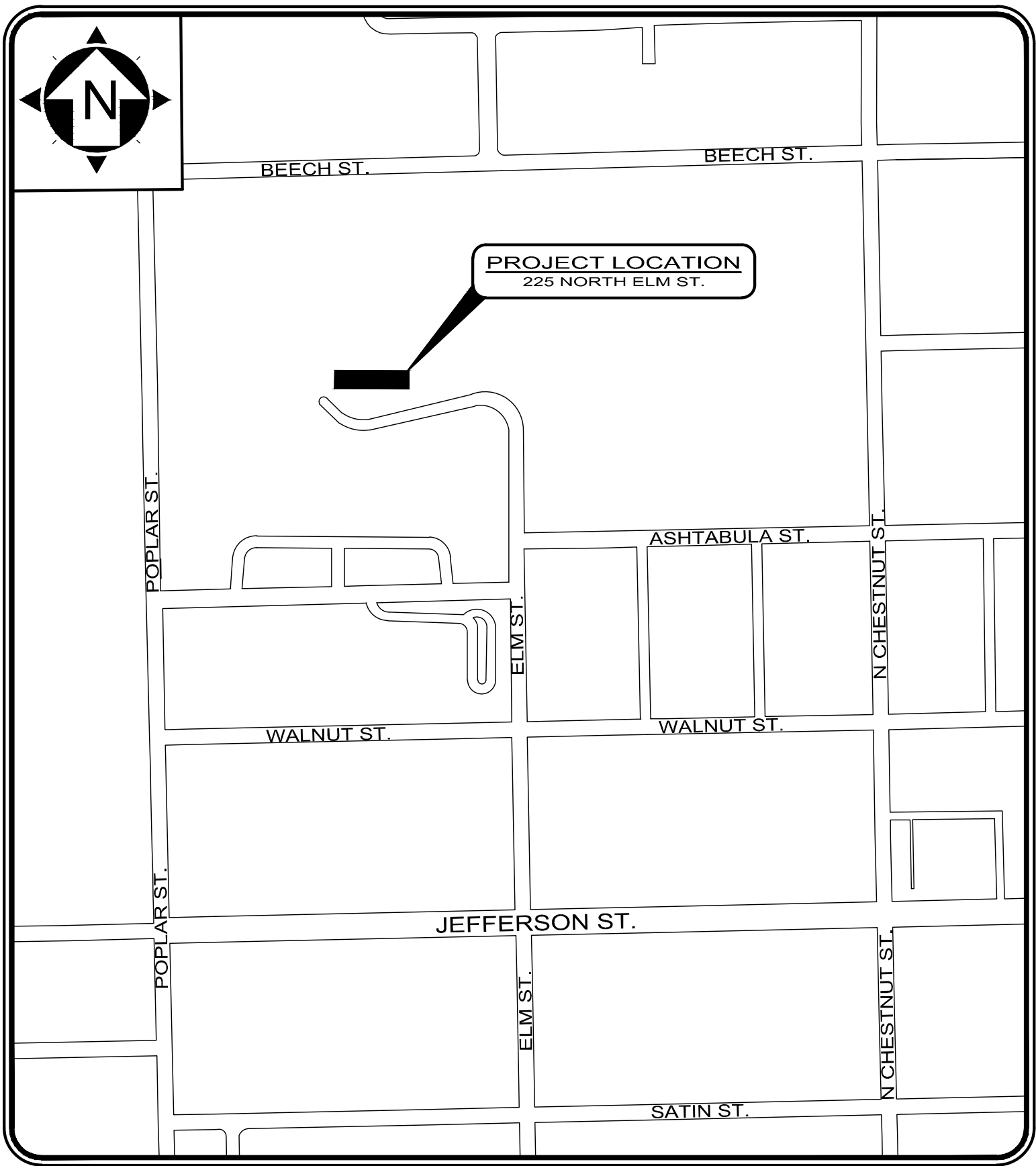


**OHIO811**  
Before You Dig

**1-800-362-2764**

CALL TWO WORKING DAYS BEFORE YOU DIG  
(NON MEMBERS MUST BE CALLED DIRECTLY)

1. THE SURVEY SHOWN ON THESE PLANS WAS OBSERVED IN THE FIELD FOR CONSTRUCTION PURPOSES ONLY AND MAY NOT BE SUITABLE FOR PROPERTY LINE SURVEYS OR ANY OTHER PURPOSE.
2. UNDERGROUND BUILDING SERVICE UTILITY LINES ARE NOT SHOWN ON THE PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING, MAINTAINING AND REPLACING AS NECESSARY TO ENSURE CONTINUAL SERVICE TO BUILDINGS.
3. THE CONTRACTOR IS RESPONSIBLE TO CALL OHIO UTILITIES PROTECTION SERVICE @ 1-800-362-2764, THREE WORKING DAYS PRIOR TO CONSTRUCTION.



LOCATION MAP  
SCALE: 1"=500'

OFFICIALS

MAYOR. . . . . JIM CHIACCHIERO  
VILLAGE ADMINISTRATOR . . . . . CHRIS MACKENSEN  
CLERK-TREASURER . . . . . PATRICIA FISHER  
RECREATION AND PARKS . . . . . JAMIE DEAN  
CHIEF OF POLICE . . . . . CHRIS MACKENSEN  
FIRE CHIEF . . . . . CHRIS SNYDER  
STREETS DEPARTMENT . . . . . PAT MARTUCCIO  
WASTE WATER DEPARTMENT . . . . . GARY LICATE

MEMBERS OF COUNCIL

STEVE FEBEL  
PAT MARTUCCIO  
KEVIN ORVOS  
KAREN RODERICK  
STEVE SEKANINA  
KATY WHITE-DREIER

NO	REVISION	DATE

SCALE: AS NOTED	DATE: 2/20/25	DESIGNED BY: RLM	DRAWN BY: RLM	CHECKED BY: GBC
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VILLAGE OF JEFFERSON  
JEFFERSON WASTEWATER TREATMENT PLANT  
CLARIFIER IMPROVEMENTS  
ASHTABULA COUNTY, OHIO

FINAL SETTLING TANKS - 10 SERIES  
TITLE SHEET

PROJECT NO: 241530	
DRAWING NAME 00G-01	
SHEET 1	OF 15



*Handwritten signature*







## GENERAL

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONTRACTOR TO REVIEW THE PLANS AND TECHNICAL SPECIFICATIONS, VISIT THE PROJECT SITE AND NOTIFY IN WRITING THE PROJECT ENGINEER OF ANY DISCREPANCIES IN THE PLANS OR SPECIFICATIONS PRIOR TO CONSTRUCTION.
2. THE CONTRACTOR SHALL FIELD VERIFY DIMENSIONS AND ELEVATIONS PRIOR TO CONSTRUCTION AND SUBMIT ANY NECESSARY MODIFICATIONS TO THE ENGINEER FOR APPROVAL.
3. ANY REVISIONS TO THE ACCEPTED CONSTRUCTION PLANS SHALL BE REVIEWED AND APPROVED BY THE ENGINEER PRIOR TO IMPLEMENTATION IN THE FIELD.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING A CURRENT SET OF "AS BUILT" DRAWINGS.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION LAYOUT AND SHALL NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES.
6. NO WORK MAY COMMENCE WITHOUT AN EXECUTED NOTICE TO PROCEED.
7. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR COMPLYING WITH OSHA AND ENGINEER SAFETY REQUIREMENTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFETY OF ALL VISITORS, EMPLOYEES AND WORKERS ON THE CONSTRUCTION SITE.
8. ANY DAMAGE TO UTILITIES DURING THIS WORK BY THE CONTRACTOR SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
9. THE CONTRACTOR SHALL CONSTRUCT THIS PROJECT IN COMPLIANCE WITH FEDERAL, STATE AND LOCAL BUILDING CODES.
10. ALL SEDIMENT AND EROSION CONTROL PRACTICES SHALL BE INSTALLED PRIOR TO ANY MAJOR SOIL DISTURBANCE, IN THEIR PROPER SEQUENCE, AND MAINTAINED UNTIL PERMANENT PROTECTION IS ESTABLISHED.
11. ANY DISTURBED AREAS NOT SCHEDULED FOR CONSTRUCTION ACTIVITIES WITHIN THIRTY DAYS OF DISTURBANCE SHALL BE TEMPORARILY STABILIZED AND SEEDED.
12. ALL POLLUTANTS OTHER THAN SEDIMENT THAT OCCUR ON-SITE DURING CONSTRUCTION SHALL BE HANDLED AND LEGALLY DISPOSED OF IN A MANNER THAT DOES NOT CAUSE CONTAMINATION OF STORM OR SURFACE WATERS. POLLUTANTS OF CONCERN INCLUDE, BUT ARE NOT LIMITED TO, FUELS, LUBRICANTS, SOLVENTS, CONCRETE AND CONSTRUCTION MATERIALS.
13. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE SECURITY OF ALL STORED MATERIALS ON OWNER'S SITE.
14. THE CONTRACTOR SHALL COORDINATE WITH OWNER THE STORAGE OF STORED MATERIALS AND REMOVED EXISTING EQUIPMENT TO BE RETAINED.
15. ACCESS MUST BE MAINTAINED FOR EMERGENCY VEHICLES AT ALL TIMES.
16. IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN PEDESTRIAN, LOCAL ROADWAY AND DRIVEWAY ACCESS AT ALL TIMES. CLOSING OFF OF CLEAR ACCESS TO ANY PUBLIC ALLEY, STREET, ROAD, AVENUE OR BOULEVARD MAY NOT OCCUR WITHOUT THE PRIOR CONSENT OF MUNICIPAL OFFICIALS AND THE ENGINEER.
17. ALL TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH THE "UNIFORM MANUAL OF TRAFFIC CONTROL".
18. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION SIGNING AND TRAFFIC CONTROL AS DIRECTED BY THE LOCAL MUNICIPALITY. ALL SIGNS AND MATERIAL USED SHALL CONFORM TO THE SPECIFICATIONS SET FORTH IN THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
19. ACCESS TO ALL DRIVEWAYS WILL BE MAINTAINED AT ALL TIMES EXCEPT THE TIME WHEN UTILITY INSTALLATION AND PAVEMENT REPLACEMENT WILL NOT PERMIT.
20. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SECURING A SITE FOR DISPOSAL OF ALL EXCAVATED MATERIAL THAT IS UNSUITABLE FOR USE AS BACKFILL AND ALL OTHER EXCESS EXCAVATED MATERIALS. THE CONTRACTOR SHALL PROVIDE THE OWNER WITH THE LOCATION OF THE DISPOSAL SITE AND WRITTEN PERMISSION FOR USE OF THE SITE FROM THE PROPERTY OWNER.
21. THE CONTRACTOR MUST COORDINATE HIS WORK WITH THE WWTP SUPERINTENDENT. THE CONTRACTOR MUST MAINTAIN ADEQUATE ACCESS FOR ALL MAINTENANCE VEHICLES AS WELL AS LOCAL RESIDENTS THAT UTILIZE THE SURROUNDING WALKWAYS. THE SITE AT WHICH THE WORK IS TO BE PERFORMED WILL BE MAINTAINED DURING THE PERFORMANCE OF THIS CONTRACT. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO BE AWARE OF AND AVOID INTERFERENCE TO FACILITY OPERATION.
22. THE CONTRACTOR SHALL FURNISH ALL TEMPORARY FACILITIES AS REQUIRED TO MAINTAIN SANITARY FLOWS DURING THE COURSE OF THE WORK.
23. THE INFORMATION PROVIDED WITHIN THESE PLANS IS SPECIFIC TO THE ANTICIPATED WORK AREAS AND IS NOT INCLUSIVE OF ALL TOPOGRAPHIC AND UTILITY FEATURES OUTSIDE OF THE AREA.
24. CONTRACTOR SHALL CLEAR ALL DEBRIS, DIRT, VEHICLES, AND EQUIPMENT FROM WALKWAY AND TRAFFIC ROUTES AT THE CONCLUSION OF WORK EACH DAY.
25. OSHA PROHIBITS CRANE AND BACKHOE OPERATIONS WITHIN 10 FEET OF ENERGIZED PRIMARY CONDUCTORS. TEMPORARY RELOCATION OF ELECTRICAL UTILITIES, INCLUDING RESTRAINT OF POLES, RELOCATION OF POLES, AND RUBBER COVERING OF ENERGIZED CONDUCTOS MAY BE REQUIRED. THE COORDINATION AND COST OF THESE SERVICES IS THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR MAY RESTRAIN POLES IF THE METHOD OF SUPPORT HAS BEEN SUBMITTED AND APPROVED BY THE UTILITY COMPANY.
26. ALL EXCESS EXCAVATION SHALL BE DISPOSED OF IN A LOCATION TO BE SELECTED BY THE CONTRACTOR. ALL DUMP SITES FOR THE DISPOSAL OF EXCESS MATERIAL SHALL HAVE WRITTEN PERMISSION FROM THE OWNER AND SHALL BE APPROVED IN ADVANCE BY THE VILLAGE ENGINEER. THE CONTRACTOR(S) SHALL PROVIDE TO THE ENGINEER AND OCEPA-DEFA THE LOCATION(S) FOR EXCESS SOIL PLACEMENT PRIOR TO DISPOSAL. THE CONTRACTOR(S) SHALL ENSURE THAT THE SOIL IS NOT PLACED IN ANY WATER BODY, FLOODPLAIN, WETLAND, DRAINAGE COURSE OR ENVIRONMENTALLY SENSITIVE AREA EVEN WITH THE PERMISSION OF THE PROPERTY OWNER. THE CONTRACTOR MUST OBTAIN A PERMIT FROM THE OWNER IF THE MATERIAL IS TO BE DISPOSAL OF WITHIN THE VILLAGE LIMITS.
27. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO APPLY, WHEN ORDERED BY THE ENGINEER, WATER OR CALCIUM CHLORIDE FOR THE ALLEVATION OR PREVENTION OF DUST NUISANCE ORIGINATING FROM CONSTRUCTION ACTIVITIES. CALCIUM CHLORIDE SHALL NOT BE UTILIZED ON OR BE ALLOWED TO TRACK ONTO PAVED SURFACES. SUFFICIENT QUANTITIES OF CALCIUM CHLORIDE SHALL BE STORED ON THE JOB SITE AT ALL TIMES TO BE USED FOR DUST CONTROL. THE COST OF DUST CONTROL SHALL BE INCLUDED IN THE BID PRICES FOR ALL ITEMS OF THE PROPOSAL.

### PROTECTION AGAINST VANDALISM:

1. THE REMOVAL AND DISPOSAL OF ALL CONSTRUCTION DEBRIS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR FOR ULTIMATE DISPOSAL. THE DISPOSAL OF ALL CONSTRUCTION DEBRIS SHALL BE AT AN APPROVED LANDFILL. THE DISPOSAL OF ALL "CLEAN" WASTE MATERIAL SHALL BE AT AN APPROVED LANDFILL. THE DISPOSAL OF ALL "CLEAN" WASTE MATERIAL SHALL BE AT APPROVED LANDFILLS AND/OR SITES APPROVED BY THE OWNER AND ENGINEER. THE DISPOSAL OF SEDIMENTS AND WASTEWATER SLUDGE SHALL BE AT AN APPROVED LANDFILL. THE CONTRACTOR SHALL OBTAIN ALL APPROVALS, PERMITS, LICENSES, ETC. FROM LOCAL, STATE, AND FEDERAL AGENCIES AND/OR PRIVATE LANDOWNERS. THE CONTRACTOR SHALL FURNISH THE ENGINEER A COPY OF ALL APPROVALS OR WRITTEN PERMISSION PRIOR TO DISPOSING OF ANY WASTE AT SAID SITE.

## NOISE CONTROL PRACTICES:

1. CONSTRUCTION EQUIPMENT WILL BE PROVIDED WITH INTAKE SILENCERS AND MUFFLERS AS REQUIRED BY SAFETY STANDARDS AND LOCAL NOISE ORDINANCE.
2. CONSTRUCTION ACTIVITIES WILL BE LIMITED TO DAYTIME HOURS UNLESS OTHERWISE DIRECTED BY THE OWNER.

**PRESERVATION OF PROPERTY CORNERS AND SURVEY MARKERS:**

1. THE CONTRACTOR WILL CAREFULLY PRESERVE BENCH MARKS, PROPERTY CORNERS, REFERENCE POINTS, AND STAKES AND IN CASE OF DISTURBANCE, HE SHALL ENGAGE A REGISTERED SURVEYOR TO REPLACE THEM AT HIS EXPENSE AND SHALL BE RESPONSIBLE FOR ANY MISTAKES THAT MAY BE CAUSED BY THEIR LOSS OR DISTURBANCE.

**STATIONING AND LOCATIONS:**

1. ALL LOCATIONS AND ITEMS CALLED OUT BY STATION ARE SUBJECT TO ADJUSTMENT IN THE FIELD AS APPROVED BY THE ENGINEER.

### PROTECTION AGAINST VANDALISM:

1. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE SUFFICIENT SITE SECURITY MEASURES AND /OR PERSONNEL TO PROTECT ALL NEW CONCRETE WORK FROM VANDALISM UNTIL THE CONCRETE IS SUFFICIENTLY CURED AT NO ADDITIONAL COST.
2. THE CONTRACTOR SHALL CLEAN UP ALL DEBRIS AND MATERIALS RESULTING FROM HIS/HER OPERATION AND RESTORE ALL SURFACES, STRUCTURES, DITCHES AND PROPERTY TO ITS ORIGINAL CONDITION TO THE SATISFACTION OF THE ENGINEER. RESTORATION SHALL INCLUDE SEEDING AND MULCHING DISTURBED AREAS, RESTORATION OF EXISTING DRIVES, AND FINAL CLEAN UP.
3. ALL EXISTING STORM AND SANITARY SEWER FACILITIES, INCLUDING TILE, DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED, REPLACED OR RECONNECTED TO THE EXISTING OR PROPOSED SYSTEM AS DIRECTED BY THE ENGINEER AT NO COST TO THE OWNER.

**EXISTING UTILITIES:**

1. EXISTING UTILITIES SHOWN ARE FROM BEST AVAILABLE RECORDS AND FIELD INVESTIGATIONS AND ARE NOT NECESSARILY COMPLETE OR EXACT. THE CONTRACTOR IS RESPONSIBLE FOR INVESTIGATION, LOCATION, SUPPORT, PROTECTION, AND RESTORATION OF ALL EXISTING UTILITIES AND APPURTENANCES WHETHER SHOWN ON THESE PLANS OR NOT. THE CONTRACTOR SHALL EXPOSE BY PRE-EXCAVATING ALL UTILITIES OR STRUCTURES PRIOR TO CONSTRUCTION TO VERIFY THE VERTICAL AND HORIZONTAL EFFECT ON THE PROPOSED AND EXISTING UTILITIES. THE CONTRACTOR SHALL COORDINATE HIS/HER WORK WITH THE UTILITY OWNER.
2. WHERE EXISTING POWER OR TELEPHONE POLES ARE IN CLOSE PROXIMITY TO WORK, THE CONTRACTOR SHALL COORDINATE HIS WORK EFFORTS WITH THOSE OF THE UTILITY COMPANIES SUCH THAT THEIR EXISTING FACILITIES CAN BE MAINTAINED AND PROTECTED DURING THE TIME WORK IS GOING ON ADJACENT TO THE POLE. THE COST FOR ANY REQUIRED PROTECTION OR RELOCATION OF EXISTING POWER OR TELEPHONE POLES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND NOT THAT OF THE VILLAGE.
3. THE CONTRACTOR SHALL BE REQUIRED, AT HIS EXPENSE, TO DO EVERYTHING NECESSARY TO PROTECT, SUPPORT AND SUSTAIN ALL SANITARY SEWERS, STORM DRAINS, WATER, PROCESS OR GAS PIPES, SERVICE PIPES, ELECTRIC LIGHTS, POWER AND TELEPHONE POLES, CONDUIT AND OTHER FIXTURES LAID ACROSS OR ALONG THE SITE OF THE WORK. THE ENGINEER AS WELL AS THE COMPANY OR CORPORATION OWNING SAID PIPES, POLES OR CONDUITS MUST BE NOTIFIED OF THE SAME BY THE CONTRACTOR, BEFORE ANY SUCH FIXTURES ARE REMOVED OR DISTURBED. IN CASE ANY OF THE SAID SEWER, DRAIN, GAS, PROCESS OR WATER PIPES, SERVICE PIPES, ELECTRIC LIGHT, POWER AND TELEPHONE POLES, CONDUITS OR OTHER FIXTURES ARE DAMAGED THEY SHALL BE REPAIRED BY THE AUTHORITIES HAVING CONTROL OF THE SAME AND THE EXPENSE OF SAID REPAIRS SHALL BE DEDUCTED FROM THE MONIES WHICH ARE DUE OR TO BECOME DUE THE CONTRACTOR UNDER THIS CONTRACT.
4. EXISTING UTILITY (GAS, ELECTRICAL, CABLE TELEVISION, TELEPHONE, WATER LINE, STORM OR SANITARY SEWER, WATER LINE OR STORM OR SANITARY SEWER APPURTENANCE, ETC.) IN OR OUTSIDE THE CONSTRUCTION LIMITS DAMAGED DURING THE CONSTRUCTION OF THE PROPOSED PROJECT, WILL BE REPLACED AT THE CONTRACTOR'S EXPENSE. INDIVIDUAL SANITARY, STORM, GAS, WATER, ELECTRIC AND TELEPHONE AND CABLE SERVICE CONNECTIONS ARE NOT SHOWN. THE CONTRACTOR SHALL LOCATE AND PROTECT SERVICE CONNECTIONS THROUGHOUT THE COURSE OF THE WORK. IN THE EVENT SERVICE CONNECTIONS ARE BROKEN OR DISTURBED, THE CONTRACTOR SHALL REPAIR OR REPLACE THE SERVICE CONNECTION TO THE SATISFACTION OF THE OWNER AT NO ADDITION COST TO THE OWNER.
5. SHOULD IT BECOME NECESSARY TO CHANGE THE POSITION OR TEMPORARILY REMOVE ANY STORM DRAIN, SANITARY SEWER, ELECTRIC CONDUITS, WATER PIPES, GAS PIPES, PROCESS OR OTHER PIPES OR WIRES IN ORDER TO PERMIT THE CONTRACTOR TO USE A PARTICULAR METHOD OF CONSTRUCTION OR IN ORDER TO CLEAR THE STRUCTURES BEING BUILT, THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF THE LOCATION AND CIRCUMSTANCES IMMEDIATELY.
6. NO SURFACE, GROUND OR TRENCH WATER SHALL BE ALLOWED TO FLOW INTO EXISTING SANITARY SEWERS.



SCALE:	N/A	NO	REVISION	DATE
DATE:	2/20/25			
DESIGNED BY:	GBC			
DRAWN BY:	RLM			
CHECKED BY:	GBC			

**JEFFERSON WASTEWATER TREATMENT PLANT**

VILLAGE OF JEFFERSON

**CLARIFIER IMPROVEMENTS**

ASHTABULA COUNTY, OHIO

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**GENERAL - 00 SERIES**

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**GENERAL NOTES**

PROJECT NO:	
241530	
DRAWING NAME	
00G-03	
SHEET	OF
3	15



1. PROHIBITED CONSTRUCTION ACTIVITIES

1. DISPOSING OF EXCESS OR UNSUITABLE EXCAVATED MATERIAL IN WETLANDS OR FLOODPLAINS, EVEN WITH THE PERMISSION OF THE PROPERTY OWNER;
2. LOCATING STOCKPILE STORAGE AREAS IN ENVIRONMENTALLY SENSITIVE AREAS;
3. INDISCRIMINATE, ARBITRARY, OR CAPRICIOUS OPERATION OF EQUIPMENT IN ANY STREAM CORRIDORS, ANY WETLANDS, ANY SURFACE WATERS, OR OUTSIDE THE EASEMENT LIMITS;
4. PUMPING OF SEDIMENT-LADEN WATER FROM TRENCHES OR OTHER EXCAVATIONS DIRECTLY INTO ANY SURFACE WATERS, ANY STREAM CORRIDORS, ANY WETLANDS, OR STORM SEWERS; ALL SUCH WATER WILL BE PROPERLY FILTERED OR SETTLED TO REMOVE SILT PRIOR TO RELEASE;
5. DISCHARGING POLLUTANTS SUCH AS CHEMICALS, FUELS, LUBRICANTS, BITUMINOUS MATERIALS, RAW SEWAGE AND OTHER HARMFUL WASTE INTO OR ALONGSIDE OF RIVERS, STREAMS, IMPOUNDMENTS, OR INTO NATURAL OR MAN-MADE CHANNELS LEADING THERETO;
6. PERMANENT OR UNSPECIFIED ALTERATION OF THE FLOW LINE OF ANY STREAM;
7. DAMAGING VEGETATION OUTSIDE OF THE CONSTRUCTION AREA;
8. DISPOSAL OF TREES, BRUSH, AND OTHER DEBRIS IN ANY STREAM CORRIDORS, ANY WETLANDS, ANY SURFACE WATERS, OR AT UNSPECIFIED LOCATIONS;
9. OPEN BURNING OF PROJECT DEBRIS WITHOUT A PERMIT;
10. DISCHARGING INJURIOUS SILICA DUST CONCENTRATIONS INTO THE ATMOSPHERE RESULTING FROM BREAKING, CUTTING, CHIPPING, RILLING, BUFFING, GRINDING, POLISHING, SHAPING OR SURFACING CLOSER THAN 200 FEET TO PLACES OF RESIDENCES OR COMMERCIAL, PROFESSIONAL, QUASI-PUBLIC OR PUBLIC PLACES OF HUMAN OCCUPATION;
11. STORING CONSTRUCTION EQUIPMENT AND VEHICLES AND/OR STOCKPILING CONSTRUCTION MATERIALS ON PROPERTY, PUBLIC OR PRIVATE, NOT PREVIOUSLY SPECIFIED ON THE PLANS BY THE ENGINEER FOR SUCH PURPOSES;
12. RUNNING WELL POINT OR PUMP DISCHARGE LINES THROUGH PRIVATE PROPERTY OR PUBLIC PROPERTY AND RIGHTS-OF-WAY WITHOUT THE WRITTEN PERMISSION OF THE PROPERTY OWNER AND THE CONSENT OF THE ENGINEER;
13. OPERATIONS ENTAILING THE USE OF VIBRATORY HAMMERS OR COMPACTORS OUTSIDE THE HOURS OR 8:00 AM AND 5:00 P.M. OR OUTSIDE THE HOURS ALLOWED FOR CONSTRUCTION BY LOCAL ORDINANCES OR REGULATIONS; AND
14. CLOSING OFF CLEAR ACCESS TO ANY PUBLIC ALLEY, STREET, ROAD, AVENUE OR BOULEVARD WITHOUT THE PRIOR CONSENT OF MUNICIPAL OFFICIALS AND THE ENGINEER, AND CLOSING CLEAR ACCESS:

- BY FIRE PROTECTION EQUIPMENT AND EMERGENCY VEHICLES;

- BY THE PUBLIC TO ANY COMMERCIAL OR PROFESSIONAL PLACE OF BUSINESS, QUASI-PUBLIC OR PUBLIC ESTABLISHMENT, OR PLACE OF RESIDENCE; OR

- BY VEHICLES TO DRIVEWAYS WITHOUT THE PROVISION OF ALTERNATIVE MEANS OF BUILDING INGRESS AND EGRESS.
15. SOIL AND FILL SHALL NOT BE STOCKPILED IN THE FLOODPLAIN.

2. MITIGATIVE MEASURES

- EROSION/SEDIMENT CONTROL
1. SITE CLEARING AND GRUBBING SHALL NOT COMMENCE UNTIL SUCH TIME THAT THE CONTRACTOR IS PREPARED TO START CONSTRUCTION. REMOVE ONLY THOSE TREES, SHRUBS, AND GRASSES THAT MUST BE REMOVED FOR CONSTRUCTION OF ACTUAL FACILITIES; PROTECT THE REST TO PRESERVE THEIR AESTHETIC, HABITAT, AND EROSION CONTROL VALUES.
2. IMMEDIATELY FOLLOWING SITE AND ACCESS CLEARING, TEMPORARY EROSION AND SEDIMENTATION CONTROLS SHALL BE INSTALLED. THEY WILL BE MAINTAINED IN EFFECTIVE OPERATING CONDITION DURING CONSTRUCTION UNTIL FINAL SEEDING AND SITE RESTORATION OCCURS.
3. AT THE WWTP CONSTRUCTION SITE, INSTALL SEDIMENT BASINS AND DIVERSION DIKES BEFORE DISTURBING THE LAND THAT DRAINS INTO THEM.
4. DIVERSION CHANNELS WILL BE CONSTRUCTED AROUND THE WWTP CONSTRUCTION SITE TO COLLECT RUNOFF AND PREVENT SILT AND OTHER ERODIBLE MATERIALS FROM ENTERING LOCAL DRAINAGE COURSES. DIVERSION CHANNELS WILL FLOW TO TEMPORARY SEDIMENT BASINS, AND ARE TO BE STABILIZED THROUGH SEEDING, RIP-RAPPING, OR LINING THEM WITH PLASTIC.
5. EXISTING TOPSOIL WILL BE STOCKPILED AND REPLACED UPON FINAL GRADING OF THE WWTP CONSTRUCTION SITE.
6. EXTENSIVE AREAS OF STOCKPILED TOPSOIL AT THE WWTP CONSTRUCTION SITE ARE TO BE PROTECTED THROUGH THE USE OF TEMPORARY SEEDING AND MULCHING OR COVERING SUCH AS WITH ANCHORED STRAW MULCH. SILT BARRIERS WILL BE INSTALLED DOWN GRADIENT OF THESE AREAS ON CONTOUR AND WITH THEIR ENDS UP SLOPE OF THE CONTOUR TO PREVENT SILT LADEN RUNOFF FROM ENTERING WATERWAYS OR STORM SEWERS. WITHIN 15 DAYS OF COMPLETION OF CONSTRUCTION, ANY REMAINING SOIL MUST EITHER BE REMOVED OR PERMANENTLY STABILIZED.
7. SILT FENCES SHOULD BE TRENCHED SIX TO TWELVE INCHES DEEP, THE FABRIC LAID IN THE TRENCH, AND THE SOIL PROPERLY BACKFILLED INTO THE TRENCH TO PREVENT UNDERCUTTING.
8. WHERE TRENCH EXCAVATION OCCURS PARALLEL TO ANY WATERWAY, A VEGETATED BARRIER SHOULD BE MAINTAINED BETWEEN THE STREAM AND THE CONSTRUCTION SITE. ALL TRENCH SPOILS WILL BE STOCKPILED ON THE SIDE OF THE TRENCH AWAY FROM THE WATERWAY, AND A LINE OF SILT BARRIERS WILL BE ESTABLISHED ALONG THE EDGE OF CONSTRUCTION ON THE CONTOUR BETWEEN THE TRENCH AND THE WATERWAY.
9. NO MORE THAN 200 FEET OF TRENCH SHALL BE OPEN AT ANY GIVEN TIME. TRENCH OPENING AND LAYING OF PIPE SHOULD OCCUR SO AS TO MINIMIZE THE AMOUNT OF DISTURBED AREA. ALL TRENCHES ARE TO BE BACKFILLED AND COMPACTED IMMEDIATELY AFTER PIPE INSTALLATION. IMMEDIATELY FOLLOWING THE BACKFILLING OF THE TRENCH, THE GROUND SURFACE WILL BE ROUGH GRADED TO THE EXISTING CONTOURS TO ALLOW FOR PROPER DRAINAGE, AND WILL BE SEEDED AND/OR MULCHED IN STAGES TO PREVENT EROSION.
10. ANY DISTURBED AREA THAT WILL NOT BE ACTIVELY UNDER CONSTRUCTION FOR A PERIOD OF 15 DAYS OR MORE WILL BE TEMPORARILY STABILIZED IMMEDIATELY BY SEEDING AND MULCHING OR BY ANCHORED STRAW MULCH.
11. AS CONSTRUCTION IS COMPLETED, PERMANENTLY STABILIZE EACH DISTURBED AREA IN STAGES WITH PERENNIAL VEGETATION INSTALLED ACCORDING TO OHIO EPA (OR EQUIVALENT) STANDARDS AND SPECIFICATIONS. AFTER FINAL SOIL SETTLING OVER THE SANITARY SEWER, OUTFALL SEWER, AND FORCE MAIN ALIGNMENTS, THE CONTRACTOR SHALL BRING THE TRENCH BACK TO GRADE IF NECESSARY, PLACE TOPSOIL, AND FINE GRADE, SEED, FERTILIZE, AND MULCH ALL AREAS DISTURBED BY ACTIVITIES ASSOCIATED WITH THE CONSTRUCTION OF THAT SECTION OF PIPE. FINAL GRADING WILL BE CONSISTENT WITH PRE-CONSTRUCTION TOPOGRAPHY FOR DRAINAGE AND AESTHETIC REASONS.
12. BORING PITS (FOR JACK AND BORE LOCATIONS) SHALL BE SURROUNDED WITH SILT BARRIERS TO PREVENT EROSION OF THE EXCAVATED PIT MATERIAL. STORM SEWER INLETS WILL BE SURROUNDED WITH SILT BARRIERS TO PREVENT SILTATION.
13. SLOPES EXCEEDING 15 PERCENT OR THAT TEND TO BE UNSTABLE REQUIRE SPECIAL TREATMENT SUCH AS WATER DIVERSION BERMS, SODDING, OR THE USE OF JUTE OR EXCELSIOR BLANKETS.
14. WHEN BORROW MATERIAL IS OBTAINED FROM OTHER THAN COMMERCIALLY OPERATED SOURCES, EROSION OF THE BORROW SITE WILL BE SO CONTROLLED BOTH DURING AND AFTER COMPLETION OF THE WORK THAT EROSION WILL BE MINIMIZED AND SEDIMENT WILL NOT ENTER STREAMS OR OTHER BODIES OF WATER. WASTE OR DISPOSAL AREAS AND CONSTRUCTION ROADS SHALL BE LOCATED AND CONSTRUCTED IN A MANNER THAT WILL KEEP SEDIMENT FROM ENTERING STREAMS. TEMPORARY EROSION CONTROL BARRIERS AND LIMITED SITE CLEARING WILL BE USED AS NEEDED.
15. IF WORK IS SUSPENDED FOR ANY REASON, THE CONTRACTOR SHALL MAINTAIN THE SOIL EROSION AND SEDIMENTATION CONTROLS IN GOOD OPERATING CONDITION DURING THE SUSPENSION OF THE WORK. ALSO, WHEN SEASONAL CONDITIONS PERMIT AND THE SUSPENSION OF WORK IS EXPECTED TO EXCEED A PERIOD OF ONE MONTH, THE CONTRACTOR SHALL SEED, FERTILIZE, AND MULCH ALL DISTURBED AREAS LEFT EXPOSED WHEN THE WORK IS STOPPED.
16. INSTALL THE ABOVE EROSION AND SEDIMENT CONTROL MEASURES, AS APPROPRIATE, REFERRING TO OHIO EPA, STORM WATER TECHNICAL ASSISTANCE, RAINWATER AND LAND DEVELOPMENT MANUAL STANDARDS AND SPECIFICATIONS (FORMERLY ODNR) OR EQUIVALENT FOR PARTICULAR TECHNIQUES. THESE MEASURES ARE TO BE MAINTAINED IN EFFECTIVE WORKING CONDITION DURING CONSTRUCTION AND UNTIL ALL DISTURBED AREAS HAVE BEEN PERMANENTLY STABILIZED.
- LINK:  
HTTP://EPA.OHIO.GOV/PORTALS/35/STORM/TECHNICALASSISTANCE/RLD11-6-14All.pdf

2. MITIGATIVE MEASURES - CONTINUED

- TRAFFIC CONTROL
17. AT LEAST ONE LANE OF TRAFFIC MUST BE MAINTAINED ALONG THE TRAVEL ROUTE TO THE CONSTRUCTION SITE.
18. ACCESS MUST BE MAINTAINED FOR EMERGENCY VEHICLES AT ALL TIMES.
19. NO TRENCH WILL BE LEFT OPEN AT THE END OF A WORK DAY, WHERE PRACTICAL; ANY OPEN TRENCH WILL BE PROPERLY IDENTIFIED AND BARRICADED FOR SAFETY PURPOSES.
20. ANY CONSTRUCTION EQUIPMENT OR EXCAVATIONS NEAR ROADS MUST BE MARKED WITH LIGHTS, REFLECTORS, OIL LANTERNS, OR SMUDGE POTS.
21. THE CONTRACTOR SHALL PROVIDE, ERECT AND MAINTAIN ALL NECESSARY BARRICADES, WARNING SIGNS, DANGER SIGNALS, FLAG PERSON(S), WATCHERS, AND ALL OTHER APPROPRIATE PRECAUTIONS NECESSARY FOR THE PROTECTION OF THE WORK AND FOR SAFETY.
22. PRIOR TO CLOSING OFF CLEAR ACCESS TO ANY PUBLIC ALLEY, STREET, ROAD, AVENUE, OR BOULEVARD, THE CONTRACTOR MUST HAVE CONSENT FROM LOCAL OFFICIALS AND THE ENGINEER.
- AIR POLLUTION / NOISE CONTROL
23. CONSTRUCTION ACTIVITIES WILL BE LIMITED TO DAYTIME HOURS.
24. CONSTRUCTION EQUIPMENT WILL BE PROVIDED WITH INTAKE SILENCERS AND MUFFLERS, AS REQUIRED BY SAFETY STANDARDS.
25. ALL CONSTRUCTION VEHICLES SHOULD BE EQUIPPED WITH PROPER EMISSIONS CONTROL EQUIPMENT.
26. PERIODICALLY CHECK EQUIPMENT AND MACHINERY FOR PROPER TUNING TO MINIMIZE EXHAUST EMISSIONS AND NOISE.
27. UNPAVED AREAS WILL BE WET DOWN (AS NECESSARY) DURING CONSTRUCTION TO MINIMIZE DUST GENERATION.
- DEWATERING
28. ALL DEWATERING FLOWS ARE TO BE SETTLED IN SILTATION BASINS OR DIRECTED THROUGH FILTERING DEVICES BEFORE DISCHARGE TO STABILIZED SITES, SUCH AS STREAMS OR STORM SEWERS; NOT ONTO EXPOSED SOILS, STREAM BANKS, OR ANY OTHER SITE WHERE THE FLOW COULD CAUSE EROSION.
29. SILT FROM CONSTRUCTION OPERATIONS SHALL NOT BE PERMITTED TO ENTER THE STORM SEWER SYSTEM. WHEN CONSTRUCTION OCCURS NEAR STORM SEWER INLETS, EROSION CONTROL MEASURES SUCH AS INLET FILTERS AND HAY BALES SHALL BE USED TO PREVENT SILT FROM ENTERING THE STORM SEWERS.
30. CONVEY WATER FROM THE CONSTRUCTION SITE IN A CLOSED CONDUIT. DO NOT USE TRENCH EXCAVATIONS AS TEMPORARY DRAINAGE DITCHES.
- ARCHAEOLOGICAL / HISTORICAL RESOURCES
31. CONTRACTORS AND SUBCONTRACTORS ARE REQUIRED UNDER OHIO REVISED CODE SECTION 149.53 TO NOTIFY THE OHIO HISTORICAL SOCIETY AND THE OHIO HISTORIC SITE PRESERVATION BOARD OF ARCHAEOLOGICAL DISCOVERIES LOCATED IN THE PROJECT AREA, AND TO COOPERATE WITH THOSE ENTITIES IN ARCHAEOLOGICAL AND HISTORIC SURVEYS AND SALVAGE EFFORTS IF SUCH DISCOVERIES ARE UNCOVERED WITHIN THE PROJECT AREA.
- CONTACT: STATE HISTORIC PRESERVATION OFFICE  
PHONE: 1-614-298-2000

TREE REMOVAL

TREE REMOVAL WILL BE LIMITED TO THAT NECESSARY FOR CONSTRUCTION AND WILL BE LIMITED FURTHER TO THE PERMANENT EASEMENT WHENEVER POSSIBLE. IF THE PROJECT REQUIRES TREES MUST BE CUT, THIS MUST OCCUR BETWEEN OCTOBER 1 AND MARCH 31. INDIANA BATS ARE HIGHLY-DEPENDENT UPON TREES INCLUDING DEAD AND DYING TREES OF SPECIES WITH EXFOLIATING BARK, CREVICES, OR CAVITIES IN UPLAND AREAS OR RIPARIAN CORRIDORS AND LIVING TREES WITH EXFOLIATING BARK, CAVITIES, OR HOLLOW AREAS FORMED FROM BROKEN BRANCHES OR TOPS. IF SUITABLE TREES MUST BE CUT DURING THE PROHIBITED TIME PERIOD, A NET SURVEY MUST BE CONDUCTED TO DETERMINE THE PRESENCE OR ABSENCE OF INDIANA BATS PRIOR TO CUTTING.



SCALE:		N/A	NO	REVISION	DATE
DATE:		2/20/25			
DESIGNED BY:			GBC		
DRAWN BY:			RLM		
CHECKED BY:			GBC		

VILLAGE OF JEFFERSON JEFFERSON WASTEWATER TREATMENT PLANT CLARIFIER IMPROVEMENTS ASHTABULA COUNTY, OHIO	
GENERAL - 00 SERIES	GENERAL NOTES

PROJECT NO: 241530	
DRAWING NAME 00G-04	
SHEET 4	OF 15



**JEFFERSON WASTEWATER TREATMENT PLANT**

**VILLAGE OF JEFFERSON**

**CLARIFIER IMPROVEMENTS**

**ASHTABULA COUNTY, OHIO**

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**FINAL SETTLING TANKS - 10 SERIES**

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**STRUCTURAL NOTES**

PROJECT NO:	
241530	
DRAWING NAME	
10S-01	
SHEET	OF
5	15

1. THE WASTEWATER TREATMENT SYSTEM INCLUDES THREE CLARIFIERS (FINAL SETTLING TANKS), AN INFLUENT DISTRIBUTION CHAMBER (SLUDGE WELL), AND AN UNDERGROUND PUMP ROOM. EACH CLARIFIER HAS AN EFFLUENT DROP BOX THAT IS ATTACHED TO CONCRETE CHANNELS. THE CHANNELS RUN TO THE DISTRIBUTION CHAMBER. THE INFLUENT DISTRIBUTION CHAMBER IS CENTRALLY LOCATED BETWEEN CLARIFIER #1 AND #3. THE UNDERGROUND PUMP ROOM IS LOCATED BETWEEN CLARIFIERS #2 AND #3. THE PUMP ROOM SHARES THE COMMON WALLS OF THE CLARIFIERS AND THE DISTRIBUTION CHAMBER. ACCESS TO THE PUMP ROOM IS FROM A SET OF STAIRS WITHIN THE CLARIFIER (FINAL SETTLING TANK) CONTROL BUILDING. THE CONTROL BUILDING BEARS ON THE PUMP ROOM ROOF/TOP SLAB.
2. THE FOLLOWING DIMENSIONS AND ELEVATIONS ARE BASED ON THE CONSTRUCTION DOCUMENTS DATED OCTOBER 1970. FIELD VERIFY ALL DIMENSIONS AND GRADES IN THE CONSTRUCTION DOCUMENTS. ADJUST EXISTING GRADES TO THE CURRENT DATUM.
3. THE CLARIFIER INSIDE DIAMETER IS 35'-0" WITH 11'-4" TALL WALLS BY 12" WIDE. THE EFFLUENT DROP BOX WALLS ARE 4'-0" TALL BY 8" WIDE. THE TOP OF THE CLARIFIER WALLS AND DROP BOX WALLS ARE AT ELEVATION 881.00'. THE STRUCTURAL SLAB THAT FORMS THE ROOF OF THE PUMP ROOM IS 8" THICK AND SLOPES FROM ELEVATION 878.67'. THERE IS A STRUCTURAL SLAB OVER THE INFLUENT DISTRIBUTION CHAMBER THAT PARTIALLY COVERS THE EFFLUENT CHANNELS. THE SLAB OVER THE CHAMBER IS 8" THICK AND THE SLAB OVER CHANNELS IS 6" THICK AND IS AT ELEVATION 881.00'. THE SLAB OVER CHANNELS IS PARTIALLY CANTILEVERED. THE SLABS-ON-GRADE ARE NOT IDENTIFIED IN THE CONSTRUCTION DOCUMENTS. THE SLOPES AND THICKNESS ARE NOT DOCUMENTED. A FEW OF THE STORM INLET RIM ELEVATIONS ARE DOCUMENTED.
4. THE STRUCTURAL CONSTRUCTION LIMITS OF THE PROJECT INCLUDE THE FOLLOWING:
  - A. SELECTIVE DEMOLITION AND REPLACEMENT OF CONCRETE WALLS OF THE CLARIFIERS AND THE EFFLUENT DROP BOXES. THE DEMOLITION IS LIMITED TO THE TOP FOUR FEET OF THE WALLS UNLESS ADDITIONAL ISSUES ARE IDENTIFIED DURING THE REHABILITATION.
  - B. THE REMOVAL, CLEANING, STORAGE AND RE-INSTALLATION OF THE CLARIFIERS ALUMINUM GUARDRAIL SYSTEM. THE GUARDRAIL SYSTEM SHALL BE INSPECTED PRIOR TO REMOVAL. DAMAGED PARTS AND/OR PIECES SHALL BE IDENTIFIED AND REPLACED. SUBMIT A LIST OF DAMAGED PARTS AND/OR PIECES TO THE OWNER IMMEDIATELY AFTER REMOVAL. THE POSTS AND EXPANSION JOINTS SHALL BE IN THE ORIGINAL LOCATION. AT THE LOCATION OF THE EXPANSION JOINTS, VERIFY THAT THERE IS A SLIP JOINT AT EACH HORIZONTAL MEMBER, PROVIDE JOINTS AS NEEDED.
  - C. SELECTIVE DEMOLITION AND OVERLAY OF THE PUMP ROOM TOP SLAB (STRUCTURAL SLAB), BEAMS, AND THE INFLUENT DISTRIBUTION CHAMBER STRUCTURAL SLAB. THE WORK REQUIRES LIMITED CONCRETE SAW CUTS AS SOME LOCATIONS.
  - D. DEMOLITION AND REPLACEMENT OF FOUR SLABS (SLAB-IN-GRADE) WITH STORM WATER INLETS. THE STORM DRAIN ASSEMBLY SHALL BE RE-USED. THE WORK REQUIRES LIMITED CONCRETE SAW CUTS AT SOME LOCATIONS.
  - E. DESIGN, INSTALLATION AND REMOVAL OF CONSTRUCTION SHORING.
5. THE WASTEWATER TREATMENT PLANT SHALL CONTINUE OPERATING DURING CONSTRUCTION. THE CONSTRUCTION OPERATION SHALL NOT PROHIBIT THE WASTEWATER TREATMENT OPERATIONS. ONE CLARIFIER SHALL BE REHABILITATED AT A TIME WHILE THE OTHER TWO CLARIFIERS ARE OPERATING. UPGRADES TO THE CLARIFIER PROCESS EQUIPMENT, ELECTRICAL SYSTEMS AND PERSONNEL ACCESS SHOULD OCCUR DURING THE INDIVIDUAL CLARIFIER REHABILITATION.
6. THE INFLUENT DISTRIBUTION CHAMBER AND THE EFFLUENT CHANNELS OF THE OPERATING CLARIFIERS SHALL BE FUNCTIONING THROUGHOUT THE CONSTRUCTION. ISOLATION OF THE EFFLUENT CHANNELS, IF NEEDED, CAN UTILIZE TEMPORARY BULKHEADS, ONLY WITH PRIOR APPROVAL FROM THE OWNER.
7. THE CONTRACTOR SHALL PRODUCE AND SUBMIT A STAGED CONSTRUCTION SCHEDULE TO THE OWNER AND THE ENGINEER FOR APPROVAL. THE SCHEDULE SHALL IDENTIFY, BUT NOT BE LIMITED TO, THE STAGING, THE STARTING AND END DATE, THE STRUCTURE, THE WORK TASKS TO BE COMPLETED ALONG WITH THE TIME FRAME FOR EACH TASK. THE OWNER PREFERS THAT THE ORDER OF REPAIR FOR THE CLARIFIERS IS #3 FIRST AND #1 LAST.

10. ALL MATERIALS AND EQUIPMENT FURNISHED WILL BE NEW AND OF GOOD QUALITY, FREE

IF UNDOCUMENTED UTILITIES OR STRUCTURAL COMPONENTS ARE ENCOUNTERED DURING CONSTRUCTION, THE CONTRACTOR SHALL CEASE WORK IMMEDIATELY AND NOTIFY THE ENGINEER FOR FURTHER DIRECTION.

THE CONTRACTOR SHALL NOT STORE EQUIPMENT, MATERIALS OR DEMOLISHED MATERIALS ON STRUCTURAL SLABS OR STRUCTURAL MEMBERS.

AT COMPLETION OF THE PROJECT, CONTRACTOR SHALL BE RESPONSIBLE TO REMOVE TEMPORARY CONSTRUCTION BARRIERS, CONSTRUCTION EQUIPMENT/MATERIALS, RESTORE AREA CLEANLINESS, AS WELL AS CLEAN CONSTRUCTION DUST/DIRT/DEBRIS RESIDUE FROM AFFECTED BLDG COMPONENTS AND OWNER EQUIPMENT TO RETURN SITE TO PRE-EXISTING CONSTRUCTION CONDITIONS.

A. THE CONTRACTOR SHALL BE RESPONSIBLE TO MAKE PRE-CONSTRUCTION AND POST-CONSTRUCTION VIDEOS OF THE AFFECTED AREAS OF THE PREMISES FOR DOCUMENTATION PURPOSES.

NO SUBSTITUTIONS OF MATERIAL WILL BE ALLOWED WITHOUT WRITTEN PERMISSION FROM THE ENGINEER.

DESIGN CRITERIA:

A. GOVERNING CODES, REQUIREMENTS, DESIGN STANDARDS AND SPECIFICATIONS:  
DESIGN CODE(S): 2024 OHIO BUILDING CODE BASED ON THE 2018 INTERNATIONAL BUILDING CODE

B. REFERENCE DESIGN STANDARDS:

- ASCE 7-16 MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES
- ACI 301 SPECIFICATIONS FOR STRUCTURAL CONCRETE
- ACI 315 DETAILS AND DETAILING OF CONCRETE REINFORCEMENT
- ACI 318 BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE AND COMMENTARY
- ACI 308 CODE REQUIREMENTS FOR ENVIRONMENTAL CONCRETE STRUCTURES AND COMMENTARY
- CRSI REINFORCING BAR DETAILING (MANUAL OF STANDARD PRACTICE)
- ALUMINUM DESIGN MANUAL
- PROJECT DESIGN SPECIFICATIONS
- ALL REFERENCE STANDARDS HEREIN ARE TO BE THE MOST RECENT ISSUE IN EFFECT AS OF THE DATE OF THESE DOCUMENTS, UNLESS NOTED OTHERWISE ON THE PLANS

## TEMPORARY EXCAVATION

1. EXISTING GROUND AND ANY ACCOMPANYING PAVEMENT ALONG THE PERIMETER OF AND ADJACENT TO CLARIFIER (SETTLING TANK) REPAIR ZONES SHALL BE REMOVED AS REQUIRED TO TEMPORARILY LOWER THE GRADE ELEVATION 6"± BELOW THE HORIZONTAL SAWCUT LINE WITHIN THE DESIGNATED REPAIR AREAS:
  - A. EXCAVATED SOIL SHALL BE STORED ON SITE FOR REINSTALLATION FOLLOWING COMPLETION OF CONSTRUCTION. STORAGE LOCATION SHALL BE PER OWNER DIRECTION.
2. ENCOUNTERED FILL SHOULD BE CONSIDERED AS UNSTABLE TYPE "C" SOIL. IN-SITU SOIL SHALL BE DEWATERED AS NECESSARY TO MAINTAIN GROUND WATER ELEVATION AT LEAST ONE FOOT BELOW THE HORIZONTAL SAWCUT ELEVATION FOR THE DURATION OF THE PROJECT.
3. THE CONTRACTOR SHALL MAINTAIN SAFE SIDE SLOPES FOR ALL EXCAVATIONS OR SHORE/BOX AS REQUIRED BY OSHA AND/OR OTHER PERTINENT BUILDING CODES.
4. EXCAVATION SAFETY IS THE CONTRACTOR'S RESPONSIBILITY. SHEETING AND BRACING MAY BE REQUIRED TO MAINTAIN SAFE EXCAVATIONS AND MINIMIZE DISTURBANCE TO EXISTING UTILITIES AND STRUCTURES.

## SELECTIVE DEMOLITION

3. INDICATED STRUCTURAL SLABS, NEIGHBORING SOG AREAS AND TANK WALL EXTENTS SHALL BE DEMOLISHED TO THE LIMITS SHOWN ON THE DESIGN DRAWINGS, ONLY. CONTRACTOR SHALL EXERCISE CARE NOT TO CUT INTO CONCRETE THAT IS TO REMAIN OR DAMAGE SLAB/BEAM REINFORCING AND IMPLEMENT NECESSARY MEANS TO PROTECT THE FOLLOWING FROM DAMAGE APART FROM THE DESIGNATED DEMOLITION:
  - A. INTEGRAL/UNDERGROUND CONCRETE PUMP ROOM STRUCTURE INCLUDING SLAB, BEAMS AND WALLS.
  - B. ADJACENT CONSTRUCTION TO REMAIN.
  - C. DISTRIBUTION CHAMBER.
2. PRIOR TO INITIATION OF SAW-CUTTING AND DEMOLITION WORK, CONTRACTOR SHALL PROVIDE/INSTALL/MAINTAIN SHORING, BRACING, AND TEMPORARY STRUCTURAL SUPPORTS AS REQUIRED TO PRESERVE STABILITY AND PREVENT UNEXPECTED OR UNCONTROLLED MOVEMENT, SETTLEMENT, OR COLLAPSE OF CONSTRUCTION BEING DEMOLISHED AND CONSTRUCTION AND FINISHES TO REMAIN. STRENGTHEN OR ADD NEW SUPPORTS WHEN REQUIRED DURING PROGRESS OF REMOVAL WORK. DESIGN AND INSTALLATION OF SHORING/BRACING IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR. SHORING/BRACING SHALL REMAIN INSTALLED UNTIL THE STRENGTH LEVEL OF THE NEWLY PLACED CONCRETE HAS REACHED ITS SPECIFIED DESIGN STRENGTH.
3. ALL SAW-CUTS SHALL BE TRUE, LEVEL AND PLUMB TO MAINTAIN PROPER ALIGNMENT/RECONSTRUCTION.
  - A. SAW-CUTTING SHALL BE DONE IN A MANNER TO AVOID CROSS CUTTING CORNERS AND OVER CUTTING INTO AREAS OF EXISTING CONCRETE TO REMAIN. DRILL HOLES AND OR CORE HOLES TO NEATLY CEMENT THE CORNERS AND GRIND OR HAND CHIP AS NECESSARY. COMPLIANT WITH OSHA 1926.1153.
4. PRIOR TO SAW-CUTTING, CONTRACTOR SHALL LAYOUT ALIGNMENT AND PATTERN IDENTIFYING DEMOLITION AREAS AND MARK ACCORDINGLY TO AVOID SAW-CUTTING CONCRETE TO REMAIN ADVERSELY AFFECTING STRUCTURAL INTEGRITY OF ADJOINING STRUCTURES AND/OR OWNER'S ABILITY TO MAINTAIN PLANT OPERATION.
5. REMOVE CONCRETE TO THE DEPTH OR LOCATION AS IDENTIFIED IN THE CONSTRUCTION DOCUMENTS. IF CONCRETE IS DEGRADED AT DETERMINED LOCATION, IMMEDIATELY CONTACT THE ENGINEER.
  - A. REMOVE MORTAR USING ABRASIVE BLASTING, WATER BLASTING, SHOTBLASTING, WIRE BRUSHING, AND/OR LIGHT WEIGHT PNEUMATIC CHIPPING HAMMER TO REACH A SOUND, SOLID SUBSTRATE. REMOVE MORTAR FROM EXPOSED REINFORCING.
  - B. DO NOT USE CHIPPING HAMMERS LARGER THAN 20 LBS. FOR THIS WORK. DO NOT USE METHODS THAT WILL CAUSE CRACKING TO THE REMAINING CONCRETE SURFACE.
  - C. REMOVE LOOSE CONCRETE AND DEGRADED CONCRETE.
  - D. SOUND ALL CONCRETE SURFACES.
  - E. ROUGHENED CONCRETE SURFACE/INTERFACE TO 3/8-INCH AMPLITUDE. PRIOR TO PLACEMENT OF CONCRETE, THE SURFACE SHALL BE THOROUGHLY CLEAN AND APPLY BONDING AGENT.
  - F. PROTECT REINFORCING FROM CORROSION. PRIOR TO INSTALLING LENTON REBAR COUPLER, CLEAN REINFORCING TO CLEAN WHITE METAL.
6. CONTRACTOR SHALL PERFORM A PRE-CONSTRUCTION JOBSITE MEETING WITH EMPLOYEES AND SUBCONTRACTORS ALIKE TO CONVEY IMPORTANCE OF MAINTAINING PLANT OPERATIONS VIA PHASED CONSTRUCTION/DEMOLITION WITH INSTRUCTION TO EXERCISE CARE AND PERFORM DUE DILIGENCE TO AVOID DAMAGE TO AREAS OF EXISTING STRUCTURES THAT MUST REMAIN INTACT AND UNDAMAGED.
7. DEMOLITION AND/OR CONSTRUCTION DEBRIS SHALL NOT BE PERMITTED TO FREEFALL AND IMPACT THE EXISTING STRUCTURE, EQUIPMENT, AND UTILITIES. EFFLUENT SHALL NOT BE EXPOSED TO DEMOLITION AND/OR CONSTRUCTION DEBRIS. DEMOLITION AND/OR CONSTRUCTION DEBRIS WOULD BE DETRIMENTAL TO PROCESS EQUIPMENT. THE CONTRACTOR SHALL IMPLEMENT NECESSARY MEANS TO PROTECT THE EXISTING STRUCTURE, EQUIPMENT AND UTILITIES FROM DAMAGE.
8. THE CONTRACTOR SHALL TAKE APPROPRIATE STEP TO CONTROL DUST FROM CONCRETE REMOVAL.

### CAST-IN-PLACE CONCRETE.

XYPEX CHEMICAL CORPORATION  
6164 VENICE DR., COMMERCE, MI 48382  
CELL: 248-320-8157  
MAT.BURZLAFF@XYPEX.COM

4. READY-MIX CONCRETE SHALL COMPLY WITH SPECIFICATION REQUIREMENTS AND ASTM C94 FOR HOT AND COLD WEATHER PLACEMENT OF CONCRETE.

A. USE BLANKETS AS REQUIRED FOR COLD WEATHER CONCRETING; DO NOT USE ACCELERATING ADMIXTURES.

5. MIX DESIGN(S) SHALL BE SUBMITTED TO THE ENGINEER "FOR REVIEW" AT LEAST 15 DAYS PRIOR TO START OF WORK. DO NOT BEGIN CONCRETE PRODUCTION UNTIL MIXES HAVE BEEN REVIEWED BY ENGINEER.

A. WHEN ACCEPTABLE RECORD OF TEST RESULTS ARE NOT AVAILABLE FROM THE CONCRETE PRODUCTION FACILITY, CONCRETE PROPORTIONS SHALL BE ESTABLISHED BASED UPON TRIAL MIXTURES. AT LEAST THREE (3) DIFFERENT WATER-CEMENT RATIOS ENCOMPASSING THE REQUIRED AVERAGE STRENGTH OF 5,700PSI SHALL BE MADE. AT LEAST THREE (3) TEST CYLINDERS FOR EACH TEST AGE SHALL BE MADE.

6. THE SURFACES OF NEW CONCRETE SHALL BE FINISHED IN ACCORDANCE WITH THE "CONCRETE SURFACE SCHEDULE" ON DRAWING 10S-03.

7. ADMIXTURES SHALL CONTAIN NO MORE THAN 0.05% CHLORIDE IONS BY WEIGHT OF CEMENT WHEN TESTED IN ACCORDANCE WITH AASHTO T260.

8. CONCRETE SHALL BE PROPORTIONED, BATCHED, MIXED, PLACED, CONSOLIDATED, AND CURED IN ACCORDANCE WITH ACI 301,304,308,309 AND 318. ALL CONCRETE SHALL BE MECHANICALLY VIBRATED IN ACCORDANCE WITH ACI 304 AND ACI 309.

9. THE CONTRACTOR SHALL KEEP A COPY OF "FIELD REFERENCE MANUAL: STANDARD SPECIFICATIONS FOR STRUCTURAL CONCRETE ACI 301 WITH SELECTED ACI REFERENCES", (ACI PUBLICATION SP-15) AT THE PROJECT FIELD OFFICE.

10. ALL REINFORCING DETAILS SHALL CONFORM TO THE ACI DETAILING MANUAL, SP-66, UNLESS DETAILED OTHERWISE ON THE STRUCTURAL DRAWINGS.

11. THE CONTRACTOR SHALL EMPLOY A TESTING LABORATORY APPROVED BY THE ENGINEER/ARCHITECT TO PERFORM THE TESTING SPECIFIED PER PARAGRAPH 1.6.4 OF ACI 301. THE TESTING LABORATORY SHALL MEET THE REQUIREMENTS OF ASTM E329. TESTING SHALL BE MADE BY AN ACI CONCRETE FIELD-TESTING TECHNICIAN GRADE 1 OR APPROVED EQUIVALENT. A TECHNICIAN GRADE 1 SHALL BE PRESENT DURING ALL CONCRETE PLACEMENT.

12. THE CONTRACTOR SHALL SUBMIT PROPOSED LOCATIONS OF CONSTRUCTION JOINTS NOT INDICATED ON THE DRAWINGS FOR REVIEW BY THE ENGINEER/ARCHITECT.

13. ALUMINUM OR DISSIMILAR METALS IN CONTACT WITH CONCRETE SHALL BE COATED WITH GRAY EPOXY PRIMER, EPOXY PRIMER SHALL BE PRE-APPROVED BY THE ENGINEER.

14. FORMWORK, FOR ALL CONCRETE THAT WILL BE EXPOSED IN THE COMPLETED STRUCTURE, SHALL BE CONSTRUCTED FROM A METAL OR SUITABLE SURFACE PLYWOOD THAT WILL PRODUCE AN ACCEPTABLY SMOOTH SURFACE. SEE SPECIFICATIONS.

15. PITCH CONCRETE SLABS TO FLOOR DRAINS SHOWN ON MECHANICAL OR ARCHITECTURAL DRAWINGS.

16. CHAMFER ALL EXPOSED CORNERS AND EDGES 3/4" UNLESS OTHERWISE INDICATED ON THE DESIGN DRAWINGS. MINIMUM CLEARANCES FOR REINFORCING STEEL SHALL BE



MAINTAINED. CHAMFERS SHALL EXTEND 2'-0", MINIMUM, BELOW GRADE.

17. CONCRETE SHALL BE MOIST CURED FOR, AT LEAST, SEVEN (7) DAYS AND PERMITTED TO AIR DRY FOR A MINIMUM OF THREE (3) DAYS BEFORE PLACING AN ADJACENT ELEMENT.

18. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ADEQUATELY CONSOLIDATE PLACED CONCRETE BY MECHANICAL VIBRATING EQUIPMENT SUPPLEMENTED BY HAND-SPADING, RODDING, OR TAMPING TO MITIGATE FORMATION OF VOIDS/HONEYCOMBING WITHIN THE CONCRETE. USE EQUIPMENT AND PROCEDURES FOR CONSOLIDATION OF CONCRETE IN ACCORDANCE WITH ACI 309.

19. FORM TIES SHALL BE FACTORY-FABRICATED SNAP-OFF GLASS-FIBER-REINFORCED PLASTIC OR METAL FORM TIES DESIGNED TO RESIST LATERAL PRESSURE DURING CONCRETE PLACEMENT. FORM TIES SHALL HAVE PLASTIC CONE AND, WHEN USED IN AN ENVIRONMENTAL STRUCTURE, HAVE A WATERSTOP LOCATED AT THE CENTER. FORM TIE UNITS, AFTER BREAKBACK, SHALL BE AT LEAST 1 INCH FROM THE FACE OF THE CONCRETE SURFACE.

20. AT CONSTRUCTION JOINTS AND COLD JOINTS, THE EXISTING CONCRETE SUBSTRATE SHALL SHALL BE ROUGHENED TO A MINIMUM 1/4" AMPLITUDE, PRESSURE WASHED WITH CLEAN WATER TO REMOVE ALL DUST, LOOSE/DELETERIOUS/BOND INHIBITING MATERIALS AND COATED WITH AN EPOXY BONDING AGENT PRIOR TO PLACEMENT OF CONCRETE.

21. AT CONSTRUCTION JOINTS AND COLD JOINTS OF ENVIRONMENTAL STRUCTURE (CLARIFIER AND CLARIFIER DROP BOX) SHALL RECEIVE A PREFORMED PLASTIC WATERSTOP. PLACE WATERSTOP AT THE CENTER OF THE CONCRETE SURFACE, AT A MINIMUM 3 1/2" CLEAR OF THE CONCRETE SURFACE. WATERSTOPS SHALL BE CONTINUOUS AT ALL JOINTS AND THRU INTERSECTIONS AND CORNERS. TERMINATE 4" FROM THE TOP OF WALLS. WATERSTOP SHALL BE SYNKO-FLEX SF302 1"x1" SQUARE WATERSTOP STRIP WITH SYNKO-FLEX SOLVENT PRIMER SF311 AS MANUFACTURED BY THE HENRY COMPANY OR APPROVED EQUAL.

22. CONTRACTOR SHALL PREDETERMINE LOCATION AND AVOID CUTTING/CORING/DRILLING EXISTING REBAR FOR POST INSTALLED REBAR AND/OR ANCHOR INSTALLATIONS.

23. GROUT WHERE REQUIRED SHALL BE MIXED, APPLIED, INSTALLED AND CURED STRICTLY IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS AND CONFORM WITH THE FOLLOWING:

A. GROUT SHALL BE AN APPROVED NON-SHRINK CEMENTITIOUS MULTIPLE FLUIDITY GROUT CONTAINING NATURAL AGGREGATES DELIVERED TO THE JOB SITE IN FACTORY PREPACKAGED CONTAINERS REQUIRING ONLY THE ADDITION OF WATER; SUCH AS SIKAGROUT 212 OR APPROVED EQUAL. GROUT SHALL BE CAPABLE OF DEVELOPING A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 5800 PSI.

B. THE FAYING SURFACE WHERE GROUT IS PLACED ON TOP OF OR AGAINST EXISTING CONCRETE SHALL BE ROUGHENED TO A MINIMUM 1/4" AMPLITUDE, PRESSURE WASHED WITH CLEAN WATER TO REMOVE ALL DUST, LOOSE/DELETERIOUS/BOND INHIBITING MATERIALS AND COATED WITH AN EPOXY BONDING AGENT SUCH AS SIKADUR-32 HI-MOD LPL EPOXY BONDING/GROUTING ADHESIVE (OR APPROVED EQUAL) PRIOR TO PLACEMENT OF CONCRETE.

24. SPECIALIZED STRUCTURAL REPAIR CONCRETE SHALL BE IN ACCORDANCE WITH "CONCRETE SURFACE REPAIR NOTES AND SPECIFICATIONS" ON DRAWING 10S-04.

25. PRODUCT REPRESENTATIVE FOR SIKA PRODUCT LINE IS AS FOLLOWS:

MIKE CHILDRESS  
CHILCO DIVERSIFIED, INC.  
PH: 330-714-6900  
EMAIL: MIKE@CHILCOREPS.COM

VI. MINIMUM CONCRETE COVER FOR REINFORCEMENT

1. UNLESS NOTED OTHERWISE, MINIMUM CONCRETE COVER FOR REINFORCED CONCRETE EXPOSED TO EARTH, LIQUID, AND/OR WEATHER SHALL COMPLY WITH THE FOLLOWING:
- A. STRUCTURAL SLABS:
- |              |    |
|--------------|----|
| TOP & BOTTOM | 2" |
|--------------|----|
- B. SLAB ON GRADE:
- |     |        |
|-----|--------|
| TOP | 1 1/2" |
|-----|--------|
- C. FOUNDATION WALLS:
- |         |    |
|---------|----|
| EA FACE | 2" |
|---------|----|
- D. OTHER/MISC:
- |        |        |
|--------|--------|
| STAIRS | 1 1/2" |
|--------|--------|
- E. MECHANICAL COUPLERS:
- |       |         |
|-------|---------|
| WALLS | 1 3/16" |
|-------|---------|
- NOTE: COUPLER AND CONNECTED REINFORCING WITHIN 18" SHALL BE COATED WITH A CORROSION INHIBITOR SUCH AS SIKA ARMATEC 110 EPOCEM OR APPROVED EQUAL.

VII. CONCRETE OVERLAY

1. PREPARE EXISTING CONCRETE SURFACE VIA MECHANICAL MEANS AND INSTALL MICRO-SILICA MODIFIED (MSM) CONCRETE OVERLAY WHERE INDICATED ON THE DESIGN DRAWINGS, AS NOTED HEREIN.
2. WHEN SLAB EXTEND BEYOND THE SCARIFIED AREA, SAWCUT THE SLAB AT THE SCARIFIED LIMIT. SAWCUT SHALL BE 3/4" DEEP.
3. USE WALK BEHIND GRINDER AND/OR SCARIFIER TO REMOVE 3/4" TO 1" THICKNESS OF EXISTING CONCRETE SURFACE WITHIN THE BOUNDARIES OF THE INDICATED OVERLAY AREA; DO NOT USE SCABBLER FOR CONCRETE REMOVAL.
- A. ROUGHEN SURFACE OF CONCRETE TO PRODUCE A SURFACE PROFILE WITHIN THE RANGE OF CSP 7 TO CSP 10 IN ACCORDANCE WITH ICRI 310.2R-2013.
4. ANY REMOVAL OF ADDITIONAL DETERIORATED/UN SOUND CONCRETE BELOW THE NOMINAL 1" DEPTH SHALL BE LOCALLY PERFORMED USING ABRASIVE BLASTING, WATER BLASTING, SHOTBLASTING, WIRE BRUSHING, AND/OR LIGHT WEIGHT PNEUMATIC 20 POUND, MAXIMUM, CHIPPING HAMMER. DO NOT USE ANY METHODS THAT WILL CAUSE MICROCRACKING TO THE CONCRETE BASE.
5. SAW CUTTING, IF USED, SHALL BE DONE VIA THE WET METHOD. MAX SAWCUT DEPTH SHALL BE 3/4" BELOW THE EXISTING SURFACE OF THE CONCRETE TO REMAIN WITHIN THE CONFINES OF THE EXISTING CONCRETE COVER, NOTING THAT NO EXISTING SLAB REINFORCING STEEL SHALL BE CUT/DAMAGED.
6. HAMMER SOUND THE SCARIFIED SURFACE FOLLOWING REMOVAL OF THE NOMINAL 1" DEPTH. SPRAY PAINT PERIMETER OF REMAINING UNSOUND AREAS, THEN USE USING ABRASIVE BLASTING, WIRE BRUSHING, AND/OR LIGHT WEIGHT PNEUMATIC 20 POUND, MAXIMUM, CHIPPING HAMMER TO REACH SOUND MATERIAL.
7. FINAL CONCRETE PROFILE SHALL BE A ROUGHEN SURFACE TO PRODUCE A SURFACE PROFILE WITHIN THE RANGE OF CSP 7 TO CSP 10 IN ACCORDANCE WITH ICRI 310.2R-2013 OR A 1/4" AMPLITUDE.
8. REMOVE RUST/CORROSION ON ALL EXPOSED REBAR USING HAND TOOL CLEANING TO LEAVE SOLID METAL.
9. VACUUM ALL DUST AND LOOSE MATERIAL FROM ROUGHENED CONCRETE SUBSTRATE.
10. SPRAY CLEANED SURFACE WITH WATER TO MAINTAIN A SATURATED SURFACE DRY SUBSTRATE CONDITION WITH NO STANDING WATER.
11. APPLY BONDING AGENT WITH CORROSION INHIBITOR ON THE PREPARED/CLEANED SURFACE, SUCH AS SIKA ARMATEC 110 EPOCEM OR APPROVED EQUAL. BONDING AGENT SHALL BE INSTALLED AND ALLOWED TO SLAKE PER MANUFACTURER RECOMMENDATIONS

AND REQUIREMENTS.

12. INSTALL/PLACE MONOLITHIC OVERLAY APPLICATION (NO JOINTS) OF MSM CONCRETE ATOP OF THE INSTALLED BONDING AGENT.
- A. MSM CONCRETE MIX SHALL CONFORM TO THE REQUIREMENTS OF ODOT (2019), ITEMS 847.04 (MATERIALS), 847.07(MIXERS) & 847.11(PROPORTIONING) CONCURRENT WITH SPECIFICATION SECTION 030130 - CONCRETE REHABILITATION.
- B. MIX DESIGN SHALL BE SUBMITTED TO THE ENGINEER "FOR REVIEW" AT LEAST 15 DAYS PRIOR TO START OF WORK. DO NOT BEGIN CONCRETE PRODUCTION UNTIL MIX HAS BEEN REVIEWED BY ENGINEER.
- C. THE USE OF MICRO-SILICA ADMIXTURE IN DISSOLVABLE BAGS SHALL NOT BE ALLOWED.
- D. MSM CONCRETE SHALL BE PLACED WITHIN 90 MINUTES OF BATCHING.
13. PLACE/FINISH/SCREED MSM CONCRETE OVERLAY TO MATCH THE PRE-CONSTRUCTION LEVEL AND SLOPE OF THE EXISTING CONCRETE SURFACE. APPLY A STEEL TROWEL FINISH.
14. COMMENCE CURING IMMEDIATELY FOLLOWING FINISHING IN ACCORDANCE WITH THE FOLLOWING:
- A. COVER THE CONCRETE SURFACE WITH A LAYER OF WET BURLAP PER ODOT ITEM 705.05, KEEPING IT WET VIA SOAKER HOSE FOR 72 HOURS (MIN).
- B. CURING COMPOUND IS NOT PERMITTED BECAUSE A SUBSEQUENT COATING IS TO BE APPLIED TO THE OVERLAY SURFACE.

VIII. CONCRETE REPAIR

1. DEFICIENT CONCRETE/REBAR AREAS SHALL BE REMEDIATED IN ACCORDANCE WITH THE "CONCRETE SURFACE REPAIR NOTES AND SPECIFICATIONS" PROVIDED WITHIN THE STANDARD DETAILS DRAWING IN CONJUNCTION WITH THE FOLLOWING ADDITIONAL REQUIREMENTS:
2. DEFICIENT CONCRETE WITHIN LOCALLY SPALLED AND DELAMINATED AREAS SHALL BE EXCAVATED/PREPARED FOR SUBSEQUENT SURFACE REPAIR IN ACCORDANCE WITH NOTE #1 ABOVE, AS FOLLOWS:
- A. VISIBLY SPALLED CONCRETE SHALL BE REMOVED TO SOUND CONCRETE BY HAND CHIPPING OR LIGHTWEIGHT AIR HAMMER (? 10 LBS.) FITTED WITH A SPADE SHAPED BIT (CHISEL BIT NOT PERMITTED). SAW CUT EDGES OF AREA SLIGHTLY UNDERCUT TO A DEPTH OF 1/2'-1" (FEATHERED EDGES ARE NOT PERMITTED), TAKING NECESSARY PRECAUTIONS TO LOCATE AND AVOID CUTTING THE REINFORCING STEEL.
- B. SUSPECTED DELAMINATED CONCRETE AREAS SHALL BE SOUNDED WITH A MASON'S HAMMER TO LOCATE EXTENTS OF LOOSE/DEFICIENT CONCRETE. USE AEROSOL SPRAY PAINT TO OUTLINE AREAS REQUIRING REMOVAL. RESOUND, RE-OUTLINE AND REMOVE UNSOUND AREAS PER ITEM 2A ABOVE UNTIL ONLY SOUND CONCRETE REMAINS.
3. CONCRETE CRACK REPAIR SHALL CONFORM WITH THE FOLLOWING:
- A. NON-LEAKING DORMANT SURFACE CRACKS:
- a. ROUTE AND SEAL DORMANT CONCRETE CRACKS IN ACCORDANCE WITH THE FOLLOWING:
- REMOVE ANY EXISTING CRACK FILLER/SEALANT PREVIOUSLY INSTALLED WITHIN THE CRACK AND/OR EXISTING COATINGS WITHIN 3/4" OF THE CRACK.
  - ROUTE CRACK VIA MECHANICAL MEANS TO ENLARGE WIDTH ALONG ITS ENTIRE LENGTH TO FORM A 1/2" TO 3/4" WIDE INVERTED "V" SHAPE GROOVE PROVIDING A SLIGHT UNDERCUT WITH A DEPTH OF 1/4" TO 1"
  - CLEAN GROOVE BY OIL FREE COMPRESSED AIR OR WATER BLASTING TO REMOVE LOOSE/DELETERIOUS MATERIALS AND ALLOW TO DRY.
  - FILL THE DRY GROOVE WITH AN ELASTOMERIC SEALANT, SUCH AS SIKAFLEX-2C NS EZ MIX, MAINTAINING A 2:1 WIDTH TO DEPTH RATIO IN ACCORDANCE WITH MANUFACTURER REQUIREMENTS. ROUTED DEPTHS EXCEEDING THE 2:1 WIDTH TO DEPTH LIMIT SHALL BE FITTED WITH POLYETHYLENE TAPE OR CLOSED CELL FOAM BACKER ROD AS APPLICABLE TO MAINTAIN PROPER SEALANT DEPTH & PROFILE.
- B. NON-LEAKING STRUCTURAL CRACKS:
- i. PRESSURE INJECT NON-LEAKING CRACKS IN STRUCTURAL CONCRETE WITH AN EPOXY ADHESIVE IN ACCORDANCE WITH THE FOLLOWING:
- CLEAN CRACK BY OIL-FREE COMPRESSED AIR OR WATER BLASTING TO REMOVE LOOSE/DELETERIOUS MATERIALS AND ALLOW TO DRY.
  - PREPLACE/INSTALL INJECTION PORTS TO INTERSECT THE CRACKS AT A 45 DEG ANGLE, THE FULL LENGTH OF THE VISIBLE CRACK. SPACING SHALL BE PER MANUFACTURER REQUIREMENTS/RECOMMENDATIONS.
  - SEAL INJECTION PORTS AND CRACK SURFACE WITH SIKADUR 31 HI-MOD GEL OR SIKADUR 33 PRIOR TO EPOXY INJECTION AND ALLOW TO CURE.
  - PRESSURE INJECT CRACKS WITH A 100% SOLIDS, MOISTURE TOLERANT, LOW-VISCOSITY, HIGH-STRENGTH EPOXY RESIN ADHESIVE SUCH AS SIKADUR 35, HI-MOD LV OR APPROVED EQUAL. INJECTION PRESSURE SHALL CONFORM WITH MANUFACTURER REQUIREMENTS AND RECOMMENDATIONS.
  - INSTALLATION SHALL BE DONE IN ACCORDANCE WITH MANUFACTURER REQUIREMENTS, GUIDELINES AND PRINTED LITERATURE.
  - THIS WORK SHALL BE PERFORMED BY A CONTRACTOR SPECIALIZING IN CONCRETE CRACK INJECTION WITH AT LEAST FIVE (5) YEARS OF EXPERIENCE.
- C. ACTIVE/LEAKING STRUCTURAL CRACKS:
- i. PRESSURE INJECT ACTIVE/LEAKING CRACKS IN STRUCTURAL CONCRETE WITH A POLYURETHANE CHEMICAL GROUT IN ACCORDANCE WITH THE FOLLOWING:
- CLEAN CRACK BY OIL-FREE COMPRESSED AIR OR WATER BLASTING TO REMOVE LOOSE/DELETERIOUS MATERIALS AND ALLOW TO DRY.
  - PREPLACE/INSTALL INJECTION PORTS TO INTERSECT THE CRACKS AT A 45 DEG ANGLE, THE FULL LENGTH OF THE VISIBLE CRACK. SPACING SHALL BE PER MANUFACTURER REQUIREMENTS/RECOMMENDATIONS.
  - SEAL INJECTION PORTS AND CRACK SURFACE WITH SIKADUR 31 HI-MOD GEL PRIOR TO EPOXY INJECTION.
  - PRESSURE INJECT CRACKS WITH AN EXPANDING, POLYURETHANE CHEMICAL GROUT SUCH AS SIKAFIX HH+ HYDROPHOBIC OR APPROVED EQUAL.
  - INSTALLATION SHALL BE DONE IN ACCORDANCE WITH MANUFACTURER REQUIREMENTS, GUIDELINES AND PRINTED LITERATURE.
  - THIS WORK SHALL BE PERFORMED BY A CONTRACTOR SPECIALIZING IN CONCRETE CRACK INJECTION WITH AT LEAST FIVE (5) YEARS OF EXPERIENCE.

4. SLUDGE WELL
- A. INTERIOR: NIC
- B. EXTERIOR:
- i. EXPOSED WALLS: NIC
- ii. TOP SURFACE:
- NORTHERN/OPEN HALF AT TOP OF WALLS: NIC
  - SOUTHERN SLAB AREA ATOP OF CHANNELS: SCOPE RESTRICTED TO SCARIFY & OVERLAY PER THE REQUIREMENTS OF SECTION VII - CONCRETE OVERLAY.
5. MISCELLANEOUS: DETERIORATED, MISSING, AND/OR IMPROPERLY INSTALLED EXPANSION JOINTS SHALL BE REPAIRED/REPLACED WITH A HIGH-PERFORMANCE JOINT SEALING SYSTEM SUCH AS SIKADUR COMBIFLEX SG SYSTEM, CONSISTING OF A HYPALON SEALING STRIP AND EPOXY ADHESIVE APPLIED ON A PREPARED SURFACE OVER THE EXISTING DETERIORATED EXPANSION JOINT. SUBSTRATE PREPARATION AND INSTALLATION SHALL BE DONE IN STRICT ADHERENCE WITH THE MANUFACTURER'S PRINTED LITERATURE.

IX. REINFORCING STEEL

1. REINFORCING BARS WITHIN STANDARD CONCRETE SHALL CONFORM TO ASTM A615 GR 60 (FY=60KSI) DEFORMED BILLET STEEL, UNFINISHED BARS, IN ACCORDANCE WITH SPECIFICATION SECTION 030000 REQUIREMENTS.
- A. BAR SIZE AND SPACING SHALL BE IN ACCORDANCE WITH THE DESIGN DRAWINGS.
2. REINFORCING WITHIN SPECIALIZED STRUCTURAL REPAIR CONCRETE, WHERE REQUIRED:
- A. BARS SHALL BE ASTM A706 GR 60 (FY=60KSI) UNFINISHED, WELDABLE GRADE DEFORMED BILLET STEEL BARS.
3. WELDED WIRE REINFORCING SHALL CONFORM TO ASTM A185, A1064 PROVIDED IN FLAT

SHEETS.

4. ALL DETAILING, FABRICATION AND ERECTION OF REINFORCING BARS, UNLESS OTHERWISE NOTED SHALL BE IN ACCORDANCE WITH MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES (ACI-315, LATEST EDITION) AND MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES (CRSI, LATEST EDITION). REINFORCING STEEL SHALL NOT BE HEATED OR WELDED AND MUST BE DRY AND FREE OF CONTAMINANTS SUCH AS RUST, DIRT, GREASE, AND PROTECTIVE COATINGS.
5. DETAILED SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER "FOR REVIEW" PRIOR TO FABRICATION. AT A MINIMUM, THESE DRAWINGS SHALL SHOW THE GENERAL PLACEMENT OF REINFORCING, CONSTRUCTION JOINTS, CONTROL JOINTS, EXPANSION JOINTS, CONCRETE MEMBER DIMENSIONS, DOWELS, BAR LENGTHS, SPLICE LENGTH, AND REINFORCING BEND TABLES.
6. REINFORCING BARS SHALL NOT BE BENT IN THE FIELD BY HEATING.
7. TACK WELDING OR WELDING OF REBAR SHALL NOT BE PERMITTED UNLESS OTHERWISE CALLED FOR OR APPROVED BY THE ENGINEER. IF APPROVED, REINFORCING MAY BE WELDED IN ACCORDANCE WITH AWS SPECIFICATION D1.4. REINFORCING TO BE WELDED SHALL CONFORM TO ASTM A706.
8. HOOKS, BENDS, SUPPORTS AND SPACERS SHALL BE IN ACCORDANCE WITH THE ACI DETAILING MANUAL. PROVIDE ACI STANDARD HOOKS WHERE HOOKS ARE SHOWN. HOOKS SHALL BE ACI STANDARD HOOKS UNLESS DIMENSIONED OTHERWISE. BARS ENDING IN RIGHT ANGLE BENDS OR HOOKS SHALL CONFORM TO THE REQUIREMENTS OF ACI 318, SECT. 25.3. IN CASES WHERE REINFORCING BARS CANNOT BE EXTENDED AS REQUIRED TO PROVIDE SPECIFIED DEVELOPMENT LENGTH DUE TO AN ADJACENT STRUCTURE, EXTEND AS FAR AS POSSIBLE AND END IN STANDARD HOOKS.
9. ALL REINFORCING STEEL SHALL HAVE MINIMUM EXTENSION INTO THE SUPPORTS IN ACCORDANCE WITH ACI BUILDING CODE (ACI 318).
- A. WHERE NOT SPECIFICALLY SHOWN/NOTED, MINIMUM REBAR ANCHORAGE REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE "MINIMUM LAP SPLICE & ANCHORAGE DIMENSIONS FOR CAST IN PLACE CONCRETE REINFORCING" PER ACI 318, BUT SHALL NOT BE LESS THAN 12", UNLESS OTHERWISE NOTED.
10. VERTICAL AND HORIZONTAL DOWEL BARS SHALL MATCH THE SIZE AND SPACING OF THE MAIN REINFORCING STEEL, UNLESS NOTED OTHERWISE.
11. REBAR ANCHORAGE TO THE EXISTING STRUCTURE IS DESIGNED WITH DRILL/EPOXY LAP SPLICES, NOTING THAT MECHANICAL COUPLERS MAY BE USED IN LIEU OF THE DRILL/EPOXY LAP SPLICES SHOWN WITHIN THE DESIGN DRAWINGS. REBAR CONNECTIONS SHALL COMPLY WITH THE FOLLOWING REQUIREMENTS:
- A. EMBEDMENT REQUIREMENTS FOR DRILL/EPOXY LAP TYPE CONNECTIONS SHALL CONFORM WITH THE LAP SPLICE DIMENSIONS INDICATED IN THE "MINIMUM LAP SPLICE AND ANCHORAGE DIMENSION TABLE FOR CAST IN PLACE CONCRETE REINFORCING" PER ITEM #9 BELOW, BUT SHALL NOT BE LESS THAN 12", UNLESS OTHERWISE NOTED.
- B. FULL MECHANICAL CONNECTIONS WHERE USED SHALL DEVELOP AT LEAST 125% OF THE SPECIFIED YIELD STRENGTH OF THE REINFORCING STEEL. MECHANICAL COUPLERS SHALL BE "NVENT LENTAL CONNECT S2 SERIES SHEAR BOLT COUPLER (PLAIN)" OR APPROVED EQUAL. DETAILED SPECIFICATION/CUT SHEET OF MECHANICAL CONNECTOR(S) SHALL BE SUBMITTED TO THE ENGINEER "FOR REVIEW" PRIOR TO PROCUREMENT.
12. ALL DEVELOPMENT AND SPLICE LENGTHS SHALL BE PER ACI 318 WITH CLEAR SPACING GREATER OR EQUAL TO 3 BAR DIAMETER. PROVIDE CLASS "B" TENSION LAP SPLICE OR FULL MECHANICAL SPLICE (ACI 318, SECT. 25.4.2) FOR STEEL IN WALLS, COLUMNS, AND SLABS. MIN REINFORCING STEEL LAP LENGTH AND ANCHORAGE SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE FOLLOWING REINFORCING "MINIMUM LAP SPLICE & ANCHORAGE" TABLE, UNO:
13. BARS SHALL BE CLEANED, TAGGED, FABRICATED AND PLACED IN ACCORDANCE WITH ACI 318/350, LATEST EDITIONS.
14. REBAR SHALL BE CHAIRED AND SECURED TO MAINTAIN PROPER POSITION, SPACING AND ADEQUATE CONCRETE COVER. PROVIDE ADEQUATE BOLSTERS, HI-CHAIRS, SUPPORT BARS, ETC., TO MAINTAIN SPECIFIED CLEARANCES FOR THE ENTIRE LENGTH OF ALL REINFORCING BARS. SUPPORTS THAT BEAR DIRECTLY ON EXPOSED SURFACES SHALL BE A CRSI CLASS 3. PRECAST CONCRETE BLOCKS SHALL NOT BE USED FOR SPACERS.
15. A TOP BAR IS A HORIZONTAL BAR WHERE MORE THAN 12 INCHES OF FRESH CONCRETE IS CAST DIRECTLY BELOW THE BAR. HORIZONTAL WALL BARS ARE CONSIDERED TOP BARS. FOR EPOXY-COATED REINFORCEMENT, MULTIPLY THE TABULATED VALUES BY 1.5 FOR 'REGULAR BARS' AND 1.3 FOR 'TOP BARS'.
16. CONCRETE CONSTRUCTION SHALL BE REINFORCED CONCRETE EXCEPT WHERE PLAIN CONCRETE IS INDICATED ON THE DRAWINGS. UNLESS OTHERWISE NOTED, MINIMUM REINFORCING STEEL SHALL BE PROVIDED IN ACCORDANCE WITH THE FOLLOWING SCHEDULES:

SLAB THICKNESS	SIZE	SPACING E.W.	LOCATION
4"	#3	12"	CENTERED
6"	#4	12"	CENTERED
8"	#4	12"	T & B

WALL THICKNESS	SIZE	SPACING E.W.	LOCATION
6"	#4	12"	CENTERED
8"	#5	12"	CENTERED
10"	#4	12"	E F
12"	#5	12"	E F

17. IN ADDITION TO NORMAL ACCESSORIES USED TO HOLD REINFORCING STEEL FIRMLY IN POSITION, EXTRA ACCESSORY BARS SHALL BE USED AS FOLLOWS:
- A. IN SLABS, #5 RAISER BARS AT 36" ON CENTER MAXIMUM TO SUPPORT TOP REINFORCING STEEL.
- B. IN WALLS WITH TWO CURTAINS, #3 U OR Z-SHAPE SPACERS AT 6'-0" ON CENTER EACH WAY.
18. LAP SPLICE WELDED WIRE FABRIC ONE SPACE PLUS 2 INCHES AT EDGES AND ENDS AND PROVIDE ADDITIONAL REINFORCING WHERE NOTED OR SHOWN ON DRAWINGS. PLACE MESH 2 INCHES FROM TOP OF SLAB FOR SLABS ON GROUND AND 1 INCH FROM TOP OF SUPPORTED SLABS UNLESS NOTED OTHERWISE.

X. REBAR DOWEL INSTALLATION

1. POST INSTALLED REBAR SHALL BE INSTALLED WITH HILTI INJECTABLE HIT-HY 200 OR HIT-RE 500 V3 EPOXY ADHESIVE AS APPLICABLE FOR TEMPERATURE AND HOLE CONDITIONS IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS AND REQUIREMENTS. ADHESIVE SHALL BE DISPENSED THROUGH A STATIC MIXING NOZZLE SUPPLIED BY HILTI TO ENSURE THAT ADHESIVE COMPONENTS ARE THOROUGHLY BLENDED. POST INSTALLED REBAR SHALL ONLY BE INSTALLED IN CURED CONCRETE THAT HAS ATTAINED ITS DESIGN STRENGTH.
2. INSTALLATION OF ADHESIVE ANCHORAGE SHALL BE PERFORMED BY PERSONNEL CERTIFIED IN THE ACI/CRSI ADHESIVE ANCHOR INSTALLATION PROGRAM. PROOF OF CURRENT CERTIFICATION SHALL BE SUBMITTED TO THE OWNER FOR APPROVAL PRIOR TO COMMENCEMENT OF THE INSTALLATION.
3. HOLES SHALL BE DRILLED AND CLEANED IN STRICT ADHERENCE WITH THE MANUFACTURERS PUBLISHED INSTALLATION INSTRUCTIONS (MPII). MANUFACTURER'S FIELD

REPRESENTATIVE SHALL PROVIDE INSTALLATION TRAINING FOR ALL PRODUCTS TO BE USED, PRIOR TO COMMENCEMENT OF WORK.

4. ADHESIVE ANCHOR SYSTEMS MUST COMPLY WITH THE LATEST REVISIONS OF ICC-ES ACCEPTANCE CRITERIA AC308 AND HAVE A VALID ICC-ES REPORT IN ACCORDANCE WITH THE APPLICABLE BUILDING CODE.
5. DRILLING SHALL BE PERFORMED WITH A ROTARY HAMMER DRILL AND CARBIDE TIPPED DRILL BIT IN ACCORDANCE WITH INSTRUCTIONS ACCOMPANYING ADHESIVE CARTRIDGES AND APPLICABLE ICC-ESR.
6. NO REINFORCING STEEL SHALL BE CUT FOR INSTALLATION OF THE POST INSTALLED ANCHORS.
7. BOREHOLE CLEANING PROCEDURES MUST COMPLY WITH INSTRUCTIONS ACCOMPANYING THE ADHESIVE CARTRIDGE AND APPLICABLE ICC-ESR IN ORDER TO PRODUCE A DRY, DUST-FREE HOLE.
8. INJECTION OF ADHESIVE SHALL BE PERFORMED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS ACCOMPANYING PRODUCT AND APPLICABLE ICC-ESR TO PRODUCE AN AIR-VOID FREE INJECTION.
9. ALTERNATE DRILLING METHODS, SUCH AS DIAMOND CORING, MUST BE APPROVED IN ADVANCE BY THE ENGINEER AND COMPLY WITH THE APPLICABLE ICC-ES REPORT.
10. ANCHOR ROD FASTENING ELEMENTS MUST BE CLEAN, DRY AND FREE OF ANY OIL OR CONTAMINANTS.

XI. CONCRETE PROTECTION

1. FOLLOWING COMPLETION OF ASSOCIATED CONCRETE REPAIR WORK, PEDESTRIAN WALKWAYS INCLUDING SIDEWALKS, STAIRS/STEPS, ENTRANCE/EXIT STOOPS AND OTHER NOTED AREAS SHALL BE COATED WITH A NON-SLIP, CRACK-BRIDGING, ELASTOMERIC POLYURETHANE WATERPROOFING MEMBRANE SUCH AS SIKALASTIC 720/745 AL TRAFFIC SYSTEM OR APPROVED EQUAL. COATING SHALL MEET THE REQUIREMENTS OF 'HEAVY PEDESTRIAN/LIGHT VEHICULAR' SYSTEM STRUCTURE AND CONTAIN OVEN DRIED QUARTZ SAND AGGREGATE BROADCAST INTO THE WEAR COURSE. TOTAL DRY THICKNESS EXCLUDING PRIMER, DETAIL COAT AND SAND/AGGREGATE SHALL BE 41 MILS. COATING SYSTEM SHALL BE APPLIED TO PREPARED/PRIMED SURFACES IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS AND REQUIREMENTS.
- A. APPLY A DETAIL COAT OF SIKALASTIC 720/745 AL TRAFFIC SYSTEM AT 23 WET MILS. 4" WIDE, CENTERED OVER NON-STRUCTURAL CRACKS UP TO 1/16". ALLOW TO BECOME TACK FREE BEFORE OVER COATING.
- B. ROUT AND SEAL CRACKS AND JOINTS OVER 1/16" UP TO 1 INCH WITH SIKAFLEX SEALANT CONCURRENT WITH NOTE III-5 ABOVE AND ALLOW TO CURE. SUBSEQUENTLY, APPLY A DETAIL COAT OF SIKALASTIC 720/745 AL TRAFFIC SYSTEM AT 23 WET MILS. 4" WIDE, CENTERED OVER THE CRACK. ALLOW TO BECOME TACK FREE BEFORE OVER COATING.
2. FOLLOWING COMPLETION OF ASSOCIATED CONCRETE REPAIRWORK, THE INTERIOR SURFACES OF ALL TANKS, CLARIFIERS, CHANNELS AND OTHER NOTED STRUCTURES SHALL BE COATED WITH A LIQUID APPLIED, ASPHALT EXTENDED POLYURETHANE (BITUMEN MODIFIED) WATERPROOFING MEMBRANE/COATING SYSTEM, SUCH AS SIKAGARD-7600 HG, OR APPROVED EQUAL. PRIOR TO COATING, AFFECTED CONCRETE SURFACES SHALL BE PRIMED WITH AN 8-MIL THICKNESS OF SIKALASTIC PF LO-VOC PRIMER, SIKALASTIC FTP LO-VOC PRIMER OR SIKALASTIC EP PRIMER/SEALER IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS AND REQUIREMENTS, UNLESS NOTED OTHERWISE. TWO COATS OF SIKAGARD-7600 HG SHALL BE APPLIED FOR A TOTAL DFT OF 45 MILS EXCLUDING PRIMER AND DETAIL THICKNESS.
- A. CRACKS OR JOINTS UNDER 1/16" NEED NO SPECIAL DETAILING PRIOR TO INSTALLATION OF SIKAGARD-7600 HG.
- B. APPLY A DETAIL COAT OF SIKAGARD-7600 HG AT 30 MILS, 6" WIDE, CENTERED OVER CRACKS AND JOINTS BETWEEN 1/16" - 1/8". ALLOW TO BECOME TACK FREE BEFORE OVER COATING.
- C. ROUT AND SEAL CRACKS AND JOINTS OVER 1/8 INCH WITH SIKAFLEX SEALANT PER NOTE III-5 AND ALLOW TO CURE. SUBSEQUENTLY, APPLY A DETAIL COAT OF SIKAGARD-7600 HG AT 30 MILS, 6" WIDE, CENTERED OVER CRACK. ALLOW TO BECOME TACK FREE BEFORE OVER COATING.
3. PRIOR TO COATING, NEW, EXISTING AND RESTORED CONCRETE SURFACES SHALL BE CLEANED AND PREPARED TO ACHIEVE A LAITANCE AND CONTAMINANT FREE, OPEN TEXTURED SURFACE VIA BLAST CLEANING (SHOT, WATER OR ABRASIVE) OR EQUIVALENT MECHANICAL MEANS. CONFORMING TO CONCRETE SURFACE PROFILE (CSP 3-4) PER INTERNATIONAL CONCRETE REPAIR INSTITUTE (ICRI) GUIDELINES. SURFACE MUST BE CLEAN, DRY AND SOUND WITH AN OPEN TEXTURE. REMOVE BOND INHIBITING IMPREGNATIONS INCLUDING DUST, LAITANCE, GREASE, CURING COMPOUNDS, PEELING, FLAKING AND LOOSE COATINGS, MOLD/MILDEW, EFFLORESCENCE AND ANY OTHER CONTAMINANTS. ALL PROJECTIONS, ROUGH SPOTS, ETC. SHOULD BE DRESSED OFF TO ACHIEVE A LEVEL SURFACE PRIOR TO THE APPLICATION.
4. REFER TO SECTION V FOR LOCAL PRODUCT REPRESENTATIVE REGARDING SIKA CONCRETE REPAIR AND PROTECTION PRODUCT LINES, MANUFACTURES PREPERATION AND APPLICATION REQUIREMENTS.

XII. ALUMINUM GUARDRAIL

1. REMOVE ALL EXISTING GUARDRAIL WITHIN AFFECTED CONCRETE REMEDIATION AREAS. SALVAGE/STORE ALL UNDAMAGED, NON-DETERIORATED SECTIONS FOR SUBSEQUENT REUSE FOLLOWING COMPLETION OF CONCRETE REPAIR-WORK. REMEDIATE PROJECTING ANCHORED THREADED RODS AS FOLLOWS:
- A. UNAFFECTED OR CONCRETE AREAS REQUIRING REPAIR/PATCHING ONLY:
- i. EXPANSION ANCHORS SHALL BE CUT FLUSH WITH THE SURFACE OF THE CONCRETE, DRIVEN INTO THE HOLE AT LEAST 1" BELOW THE FINISHED SURFACE OF THE CONCRETE, COATED WITH BONDING AGENT CONTAINING CORROSION INHIBITOR SUCH AS SIKA ARMATEC 110 EPOCEM AND FILLED WITH SIKATOP-111 PLUS PATCHING MORTAR, OR APPROVED EQUAL, FLUSH WITH THE EXISTING SURFACE.
- ii. ADHESIVE ANCHORS SHALL BE CUT FLUSH WITH THE SURFACE OF THE CONCRETE. THE EXPOSED ENDS OF THE SAW-CUT ANCHOR SHALL BE GROUND AT LEAST 1" BELOW THE FINISHED SURFACE OF THE CONCRETE, COATED WITH BONDING AGENT CONTAINING CORROSION INHIBITOR SUCH AS SIKA ARMATEC 110 EPOCEM AND FILLED WITH SIKATOP-111 PLUS PATCHING MORTAR, OR APPROVED EQUAL, FLUSH WITH THE EXISTING SURFACE.
- B. CONCRETE AREAS TO BE REMOVED/REPLACED DO NOT REQUIRE ANCHOR REMEDIATION, SINCE EXISTING BOLTS WILL BE REMOVED WITH THE AFFECTED CONCRETE.
2. IF APPROVED BY THE OWNER, SALVAGED GUARDRAIL DEEMED TO BE IN GOOD CONDITION MAY BE REUSED/REINSTALLED FOLLOWING COMPLETION OF CONCRETE REPAIR WORK, IN CONJUNCTION WITH THE FOLLOWING:
- A. FAYING SURFACE OF GUARDRAIL BASE IN CONTACT WITH CONCRETE/GROUT SHALL BE COATED IN ACCORDANCE WITH SECTION IX.
- B. NEW ADHESIVE ANCHORED THREADED RODS SHALL BE INSTALLED FOR ANCHORAGE OF THE REINSTALLED GUARDRAIL. SIZE, QUANTITY AND LOCATION SHALL BE AS SPECIFIED ON THE DESIGN DRAWINGS.
3. NEW GUARDRAIL, WHERE REQUIRED, SHALL BE FABRICATED/CONSTRUCTED IN ACCORDANCE WITH THE STANDARD DETAIL DRAWINGS AND SPECIFICATION REQUIREMENTS IN CONJUNCTION WITH THE PROVISIONS NOTED HEREIN.
- A. DETAILED SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW, PRIOR TO FABRICATION.
- B. SUBMITTAL OF CONTRACTOR ALTERNATE DESIGN AND/OR PLAN MODIFICATION OF SPECIFIED GUARDRAIL SHALL REQUIRE A PE STAMP OF DESIGN ENGINEER LICENSED WITHIN THE STATE OF OHIO.



verdantas

NO	REVISION	DATE	SCALE:	DATE:	DESIGNED BY:	DRAWN BY:	CHECKED BY:	PROJECT NO:	DRAWING NAME	SHEET	OF
			N/A	2/20/25	CMM	RLM	CMM	241530	10S-02	6	15

VILLAGE OF JEFFERSON

JEFFERSON WASTEWATER TREATMENT PLANT

CLARIFIER IMPROVEMENTS

ASHTABULA COUNTY, OHIO

FINAL SETTLING TANKS - 10 SERIES

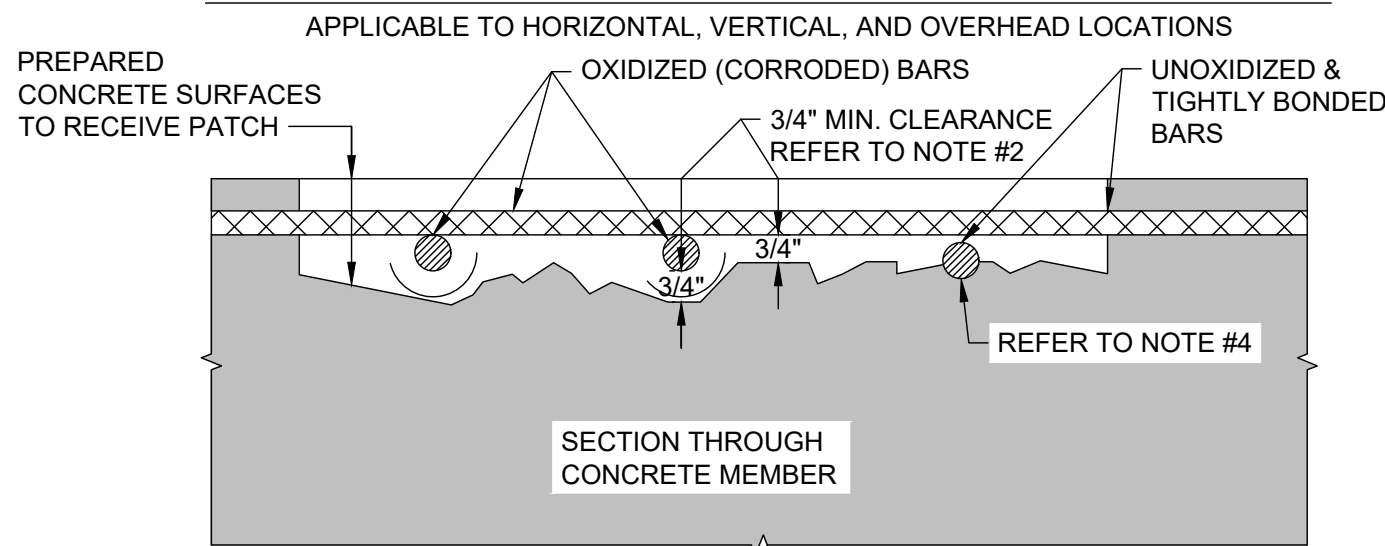
STRUCTURAL NOTES (CONTINUED)







EXPOSING & UNDERCUTTING REINFORCING STEEL

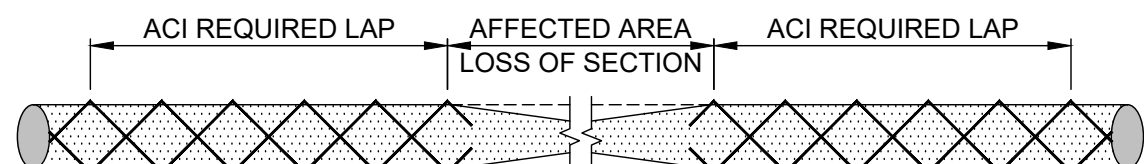


APPLICABLE TO HYDRODEMOLITION, HYDRODRILLING, AND PNEUMATIC, HYDRAULIC, AND ELECTRIC BREAKERS

CAUTION: BEFORE STARTING REMOVALS, REVIEW EFFECT OF REMOVALS ON STRUCTURAL INTEGRITY. PROVIDE SHORING OF MEMBER AS NECESSARY. PARTICULAR CARE SHALL BE EXERCISED AT SLABBEAM CONNECTIONS TO COLUMNS.

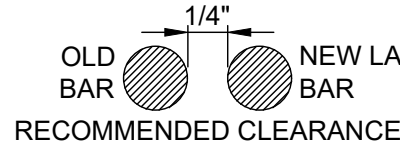
- REMOVE LOOSE OR DELAMINATED CONCRETE ABOVE OXIDIZED REINFORCING STEEL. ONCE INITIAL REMOVALS ARE MADE, PROCEED WITH THE UNDERCUTTING OF ALL EXPOSED OXIDIZED (CORRODED) BARS. UNDERCUTTING WILL PROVIDE CLEARANCE FOR UNDER BAR CLEANING. FULL BAR CIRCUMFERENCE BONDING TO SURROUNDING CONCRETE, AND WILL SECURE THE PATCH STRUCTURALLY
- PROVIDE MINIMUM 3/4" CLEARANCE BETWEEN EXPOSED REBARS AND SURROUNDING CONCRETE OR 1/4" LARGER THAN LARGEST AGGREGATE IN REPAIR MORTAR, WHICH EVER IS GREATER.
- CONCRETE REMOVALS SHALL EXTEND ALONG THE BARS TO LOCATIONS ALONG THE BAR FREE OF BOND INHIBITING CORROSION, AND WHERE THE BAR IS WELL BONDED TO SURROUNDING CONCRETE.
- IF UNOXIDIZED REINFORCING STEEL IS EXPOSED DURING THE UNDERCUTTING PROCESS, CARE SHALL BE TAKEN NOT TO DAMAGE THE BAR'S BOND TO SURROUNDING CONCRETE. IF BOND BETWEEN BAR AND CONCRETE IS BROKEN, UNDERCUTTING OF THE BAR SHALL BE REQUIRED.
- ANY REINFORCEMENT WHICH IS LOOSE SHALL BE SECURED IN PLACE BY TYING TO OTHER SECURED BARS OR BY OTHER APPROVED METHODS.

REPAIR OF REINFORCING STEEL  
DUE TO LOSS TO SECTION

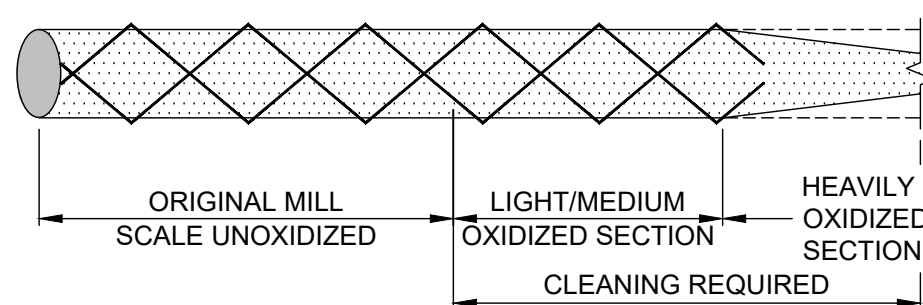


IF REPAIRS ARE REQUIRED TO THE REINFORCING STEEL ONE OF THE FOLLOWING REPAIR METHODS SHOULD BE USED:

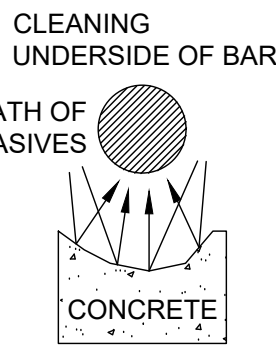
- COMPLETE BAR REPLACEMENT, OR
  - ADDITION OF SUPPLEMENTAL BAR OVER AFFECTED SECTION. NEW BAR MAY BE MECHANICALLY SPliced TO OLD BAR OR PLACED PARALLEL TO AND APPROXIMATELY 3/4" FROM EXISTING BAR.
- LAP LENGTH SHALL BE DETERMINED IN ACCORDANCE WITH ACI318, ALSO REFER TO CRSI AND AASHTO MANUAL



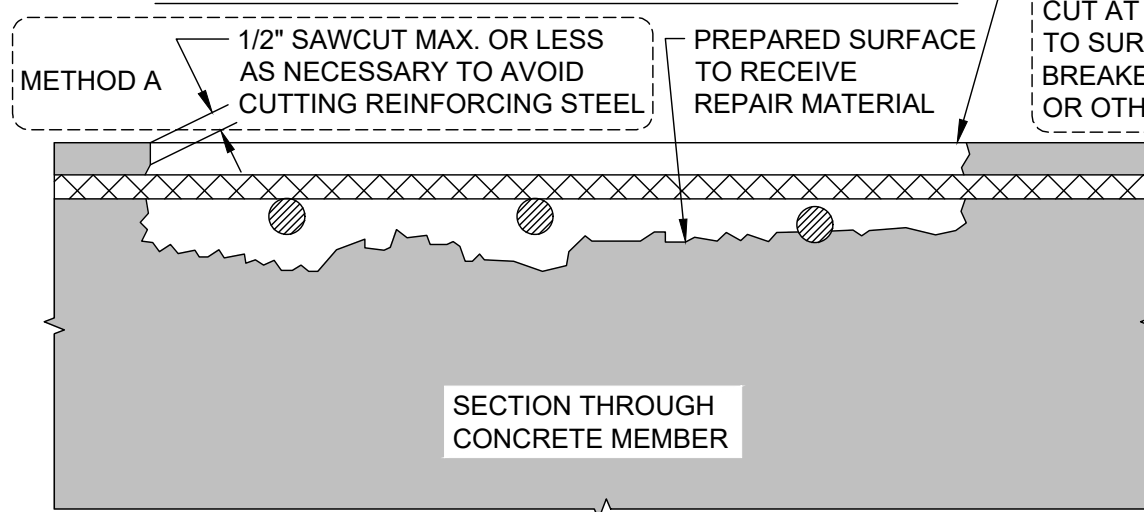
CLEANING OF REINFORCING STEEL



ALL HEAVY OXIDES AND SCALE SHOULD BE REMOVED FROM THE BAR AS NECESSARY TO PROMOTE MAXIMUM BOND OF REPLACEMENT MATERIAL. OIL FREE ABRASIVE BLAST IS THE PREFERRED METHOD A TIGHTLY BONDED LIGHT OXIDE BUILD-UP ON THE SURFACE MAY RESULT FROM HIGH-PRESSURE WATERBLASTING, WITH OR WITHOUT ABRASIVE. THIS IS USUALLY NOT DETRIMENTAL TO BOND, UNLESS A PROTECTIVE COATING IS BEING APPLIED TO THE BAR SURFACE. IN WHICH CASE THE COATING MANUFACTURER'S RECOMMENDATIONS FOR SURFACE PREPARATION SHOULD BE FOLLOWED.



EDGE AND SURFACE CONDITIONING

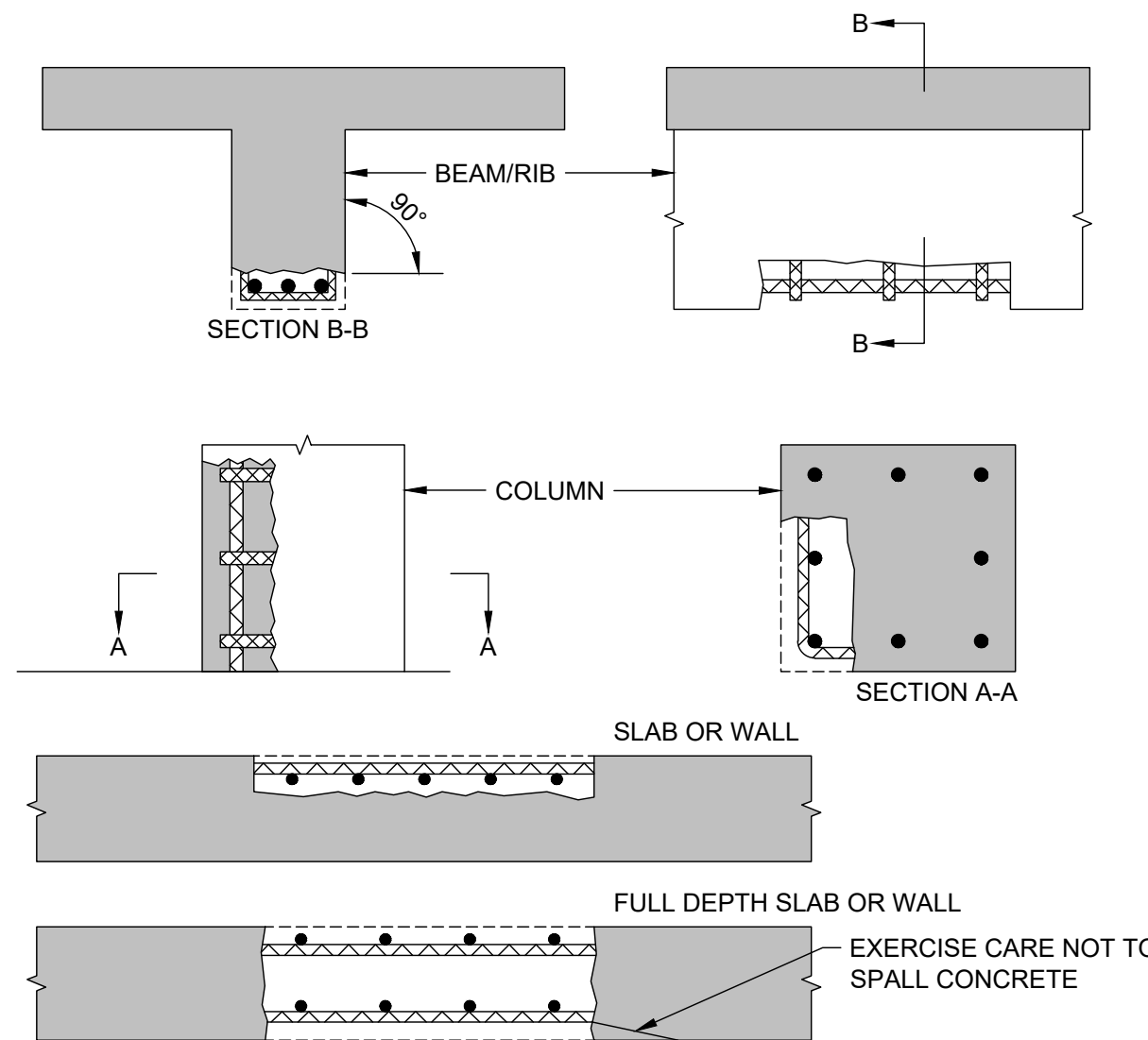


APPLICABLE TO HYDRODEMOLITION, HYDRODRILLING, AND PNEUMATIC, HYDRAULIC, AND ELECTRIC BREAKERS  
APPLICABLE TO HORIZONTAL, VERTICAL, AND OVERHEAD LOCATIONS

CAUTION: BEFORE STARTING REMOVALS, REVIEW EFFECT OF REMOVALS ON STRUCTURAL INTEGRITY. PROVIDE SHORING OF MEMBER AS NECESSARY. PARTICULAR CARE SHALL BE EXERCISED AT SLABBEAM CONNECTIONS TO COLUMNS.

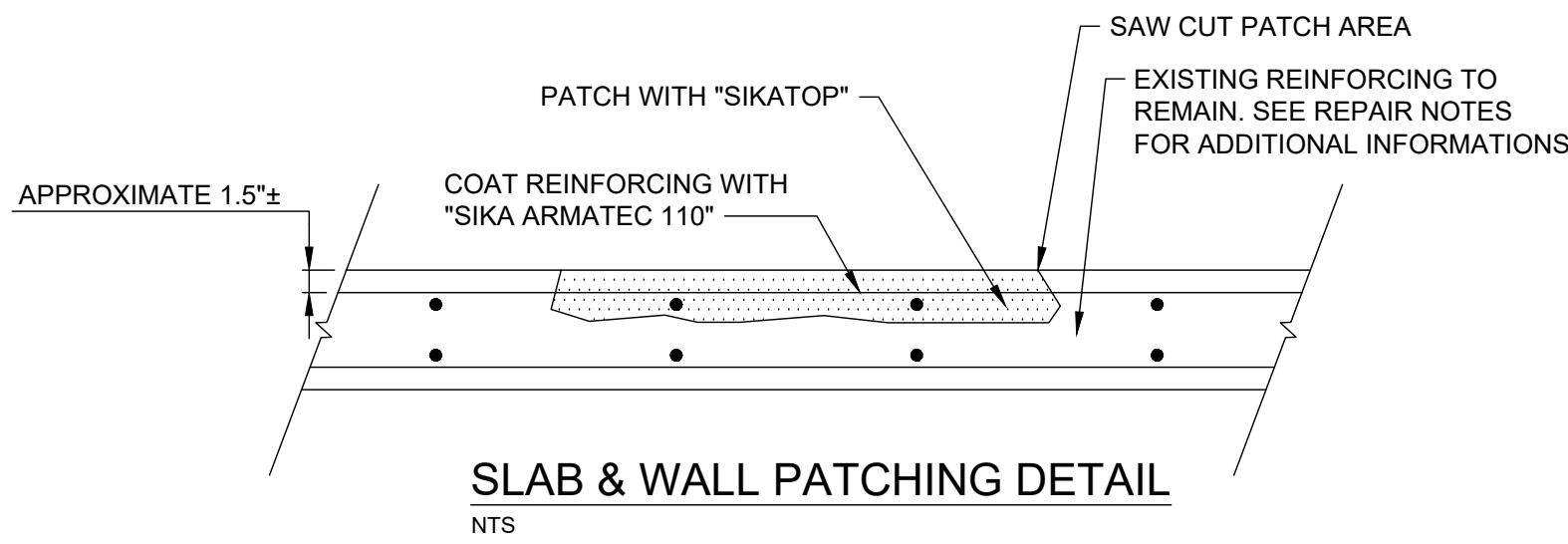
- REMOVE DELAMINATED CONCRETE, UNDERCUT REINFORCING STEEL (REFER TO REINFORCING STEEL UNDERCUTTING GUIDELINE J, REMOVE ADDITIONAL CONCRETE AS REQUIRED TO PROVIDE MINIMUM REQUIRED THICKNESS OF REPAIR MATERIAL.
- AT EDGE LOCATIONS PROVIDE EITHER METHOD A OR METHOD B RIGHT ANGLE CUTS, AVOID FEATHER EDGES, FOR SHOTCRETE REPAIRS REFER TO ACI 506 EDGE PREPARATION GUIDELINES PATCH CONFIGURATIONS SHOULD BE KEPT AS SIMPLE S POSSIBLE. FOR EXAMPLE:
- AFTER REMOVALS AND EDGE CONDITIONING ARE COMPLETE, REMOVE BOND INHIBITING MATERIALS (DIRT, CONCRETE SLURRY, LOOSELY BONDED AGGREGATES) BY ABRASIVE BLASTING OR HIGH PRESSURE WATERBLASTING WITH OR WITHOUT ABRASIVE. CHECK THE SURFACES AFTER CLEANING TO INSURE THAT SURFACE IS FREE FROM ADDITIONAL LOOSE AGGREGATE, OR THAT ADDITIONAL DELAMINATIONS ARE NOT PRESENT.
- IF HYDRODEMOLITION IS USED, CEMENT AND PARTICULATE SLURRY MUST BE REMOVED FROM THE PREPARED SURFACES BEFORE SLURRY HARDENS.

REMOVAL GEOMETRY



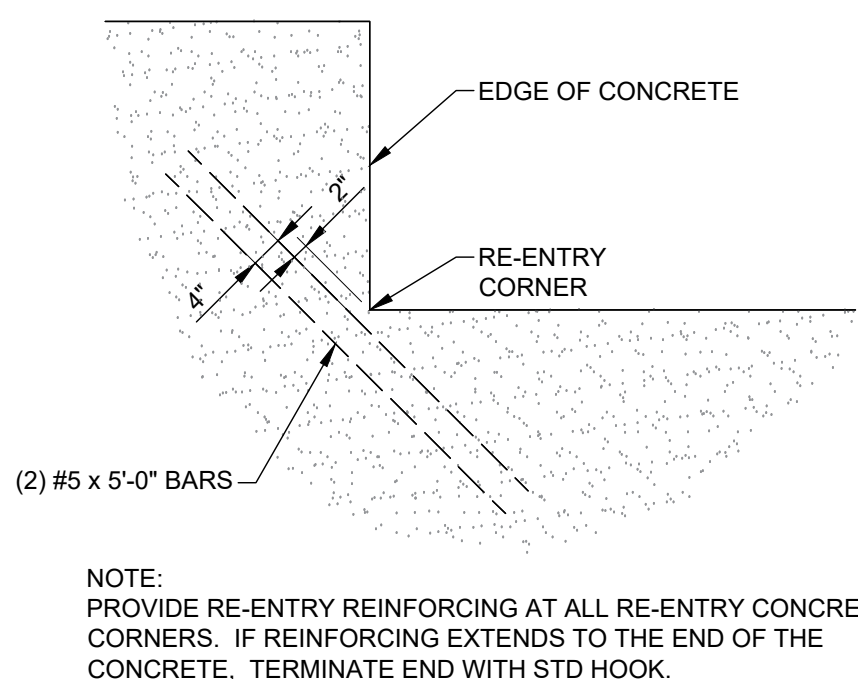
CAUTION: BEFORE STARTING REMOVALS, REVIEW EFFECT OF REMOVALS ON STRUCTURAL INTEGRITY. PROVIDE SHORING OF MEMBER AS NECESSARY. PARTICULAR CARE SHALL BE EXERCISED AT SLABBEAM CONNECTIONS TO COLUMNS.

CONCRETE SURFACE REPAIR NOTES AND SPECIFICATIONS

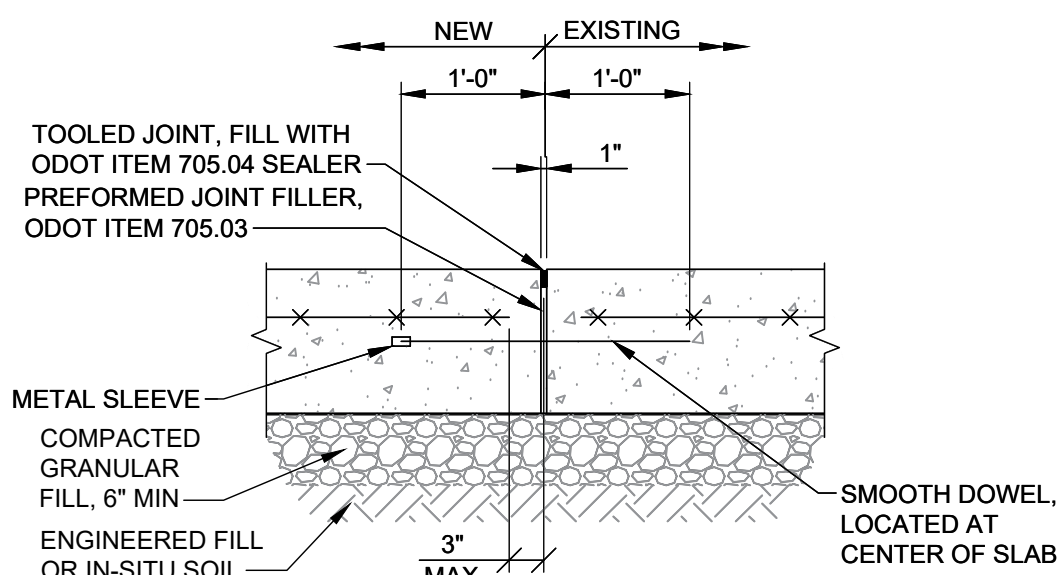


THE CONTRACTOR SHALL REPAIR DELAMINATED CONCRETE AS DESCRIBED IN THE REPAIR NOTES BELOW. THE WORK CONSISTS OF THE REMOVAL OF ALL LOOSE OR DELAMINATED CONCRETE FROM THE SURFACES THAT MAY BE ENCOUNTERED DURING SURFACE CARBONATION REMOVAL (SEE STRUCTURAL GENERAL NOTES), THE PREPARATION OF THE SURFACE, THE FURNISHING AND PLACING OF REINFORCING STEEL AS REQUIRED AND THE PLACING OF CONCRETE PATCHES, INCLUDING CURING OF SAME. THE CONTRACTOR SHALL USE SIKATOP 111 PLUS, 122 PLUS OR 123 PLUS BY SIKA CORP. OF LYNDHURST, NEW JERSEY, OR AN APPROVED EQUAL FOR THESE REPAIRS. HE SHALL HAVE IN HIS POSSESSION AT THE JOB SITE THE MANUFACTURERS PRINTED LITERATURE FOR ALL MATERIALS TO BE UTILIZED.

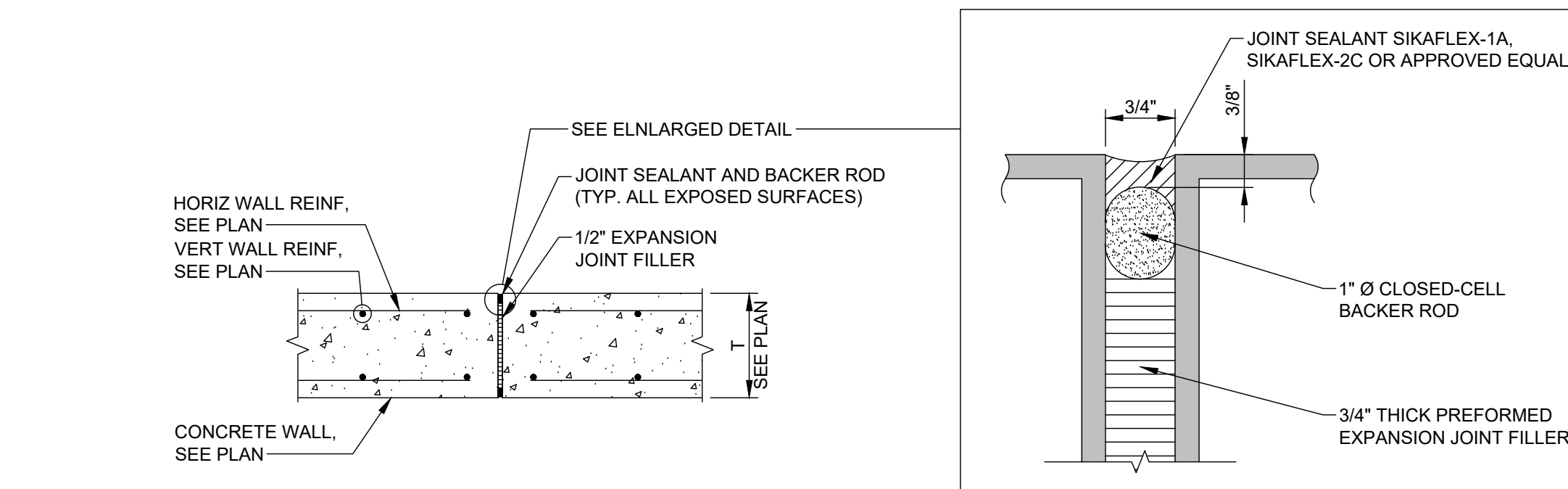
- REMOVE ALL LOOSE AND DELAMINATED CONCRETE TO SOUND CONCRETE BY HAND CHIPPING OR WITH A LIGHT WEIGHT AIR HAMMER (35 LBS.) FITTED WITH A SPADE-SHAPED BIT. A CHISEL-TIPPED BIT WILL NOT BE PERMITTED. SAW CUT EDGES OF PATCH SQUARE OR PREFERABLY SLIGHTLY UNDERCUT, HAVING A MINIMUM DEPTH OF 1/2 IN. NO FEATHER EDGES WILL BE PERMITTED. DO NOT SAW CUT THE REINFORCING.
- ALL LOOSE CONCRETE AND FINES SHALL BE FLUSHED FROM THE SURFACE AND THE ENTIRE AREA SHALL BE SOUNDED WITH A MASON'S HAMMER TO VERIFY THAT ALL LOOSE AND DELAMINATED CONCRETE HAS BEEN REMOVED. USE AEROSOL SPRAY PAINT TO OUTLINE ANY AREAS REQUIRING FURTHER REMOVAL. RESOUND AND REOUTLINE ANY UNSOUND AREAS UNTIL ONLY SOUND CONCRETE REMAINS.
- REMOVE CONCRETE TO A DEPTH OF AT LEAST 1/2 INCH IN AREA TO BE REPAIRED AND 3/4 INCH BELOW ANY REINFORCING BARS AND CONDUITS ENCOUNTERED. DEEPER REMOVAL MAY BE REQUIRED TO EXPOSE SOUND CONCRETE.
- CARE SHALL BE USED IN WORKING AROUND REINFORCING STEEL SO AS NOT TO DAMAGE THE STEEL OR TO SHATTER THE CONCRETE AROUND IT, BEYOND THE AREA TO BE PATCHED.
- FOR REPAIR DEPTHS GREATER THAN 1", ADD SMALL(-" OR y") CLEAN, COARSE AGGREGATE FOLLOWING THE MANUFACTURER'S MIXING PROCEDURES. DO NOT USE LIMESTONE AS AN AGGREGATE WITH THE SIKA PRODUCT.
- AFTER CHIPPING AREA TO SOUND CONCRETE, WATER BLAST THE SURFACE TO REMOVE ALL CONTAMINANTS DETRIMENTAL TO ACHIEVING AN ADEQUATE BOND. WIRE BRUSH ALL EXPOSED REINFORCING AND CONDUITS TO REMOVE LOOSE RUST AND OTHER BOND-INHIBITING MATTER.
- CHECK THE REINFORCING WITH A MICROMETER TO LOCATE BARS HAVING LESS THAN 75 TO 85% OF THEIR ORIGINAL CROSS SECTION REMAINING. ALL BARS FALLING INTO THIS CATEGORY SHALL EITHER BE SPliced OR REPLACED WITH NEW BARS OF THE SAME SIZE AND SPACING. THE SPlice LENGTH SHALL BE 15 INCHES. WIRE TIE NEW BARS IN PLACE.
- COAT ALL PREPARED REINFORCING WITH SIKA ARMATEC 110 BY SIKA CORP. FOLLOW THE MANUFACTURER'S INSTRUCTIONS AND APPLY A MINIMUM THICKNESS OF 20 MILS.
- APPLY SCRUB COAT OF SIKATOP 122 PLUS TO ALL CONCRETE SURFACES TO ACHIEVE MAXIMUM BOND FOR THE SIKA 122 PATCHING MATERIAL. SUBSTRATE SHOULD BE CLEAN AND SATURATED SURFACE DRY WITH NO STANDING WATER. SPRAY WITH CLEAN WATER TO OBTAIN THIS SURFACE CONDITION.
- LEAVE THE FINISHED REPAIRS IN A NEAT CLEAN CONDITION WITH NO SPILLOVERS ONTO ADJACENT AREAS.
- CURE ALL PATCHES AS RECOMMENDED BY THE MANUFACTURER.



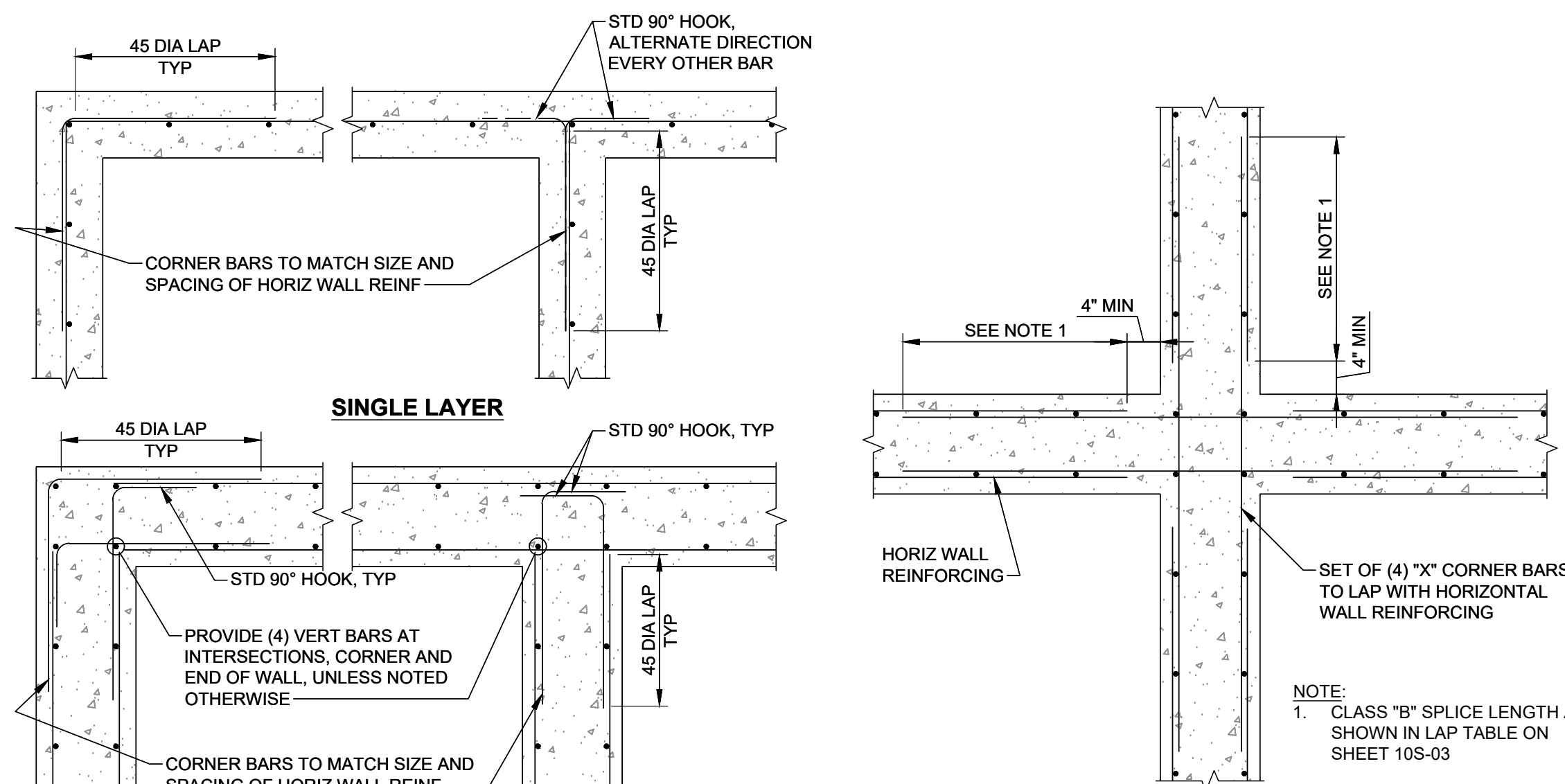
NOTE: PROVIDE RE-ENTRY REINFORCING AT ALL RE-ENTRY CONCRETE CORNERS. IF REINFORCING EXTENDS TO THE END OF THE CONCRETE, TERMINATE END WITH STD HOOK.



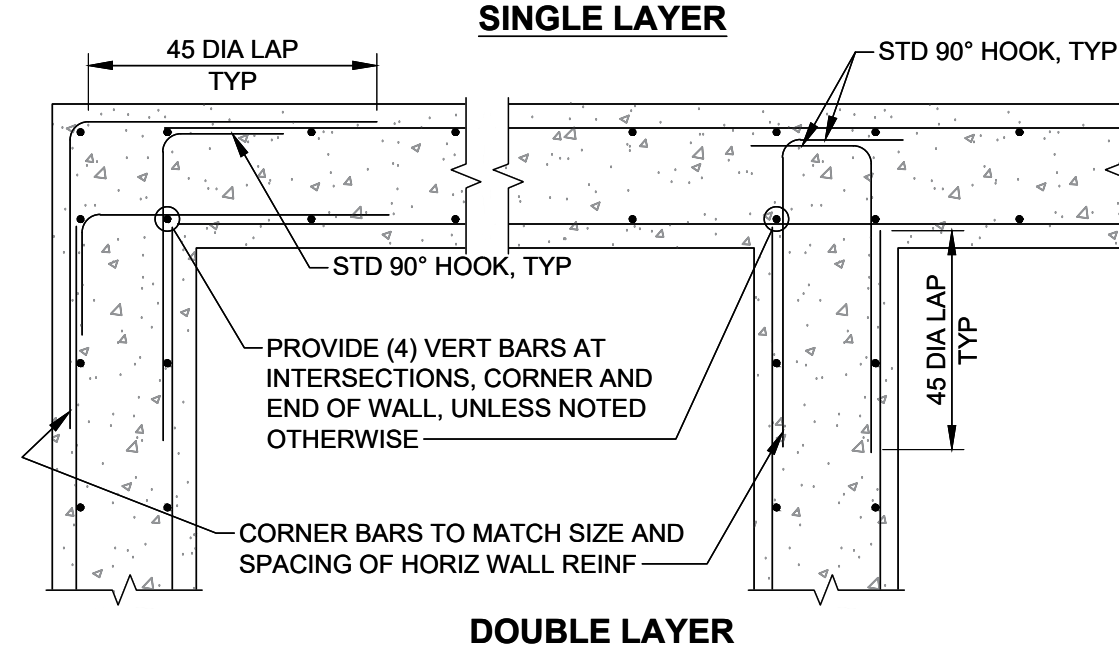
NOTE: REFER TO ODOT STANDARD DRAWING BP-5



5 TYPICAL WALL EXPANSION JOINT DETAIL  
10S-04 SCALE: NTS



"CROSS" CORNER REINFORCING, EACH FACE  
(UNLESS NOTED OTHERWISE)



DOUBLE LAYER

3 CONCRETE WALL CORNER DETAILS  
10S-04 SCALE: NTS



verdantas

DATE	REVISION	NO

SCALE: AS NOTED	DATE: 2/20/25	DESIGNED BY: CMM	DRAWN BY: RLM	CHECKED BY: CMM
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VILLAGE OF JEFFERSON	JEFFERSON WASTEWATER TREATMENT PLANT
ASHTABULA COUNTY, OHIO	CLARIFIER IMPROVEMENTS
FINAL SETTLING TANKS - 10 SERIES	
GENERAL STRUCTURAL REPAIRS	

PROJECT NO:	
241530	
DRAWING NAME	
10S-04	
SHEET	OF
8	15









<b>SCALE:</b>	AS NOTED
<b>DATE:</b>	2/20/25
<b>DESIGNED BY:</b>	CMH
<b>DRAWN BY:</b>	RLM
<b>CHECKED BY:</b>	CMH

## FINAL SETTLING TANKS - 10 SERIES

### STRUCTURAL DETAILS

15





<b>DATE:</b>	2/20/25
<b>DESIGNED BY:</b>	CMM
<b>DRAWN BY:</b>	TLM
<b>CHECKED BY:</b>	GBC

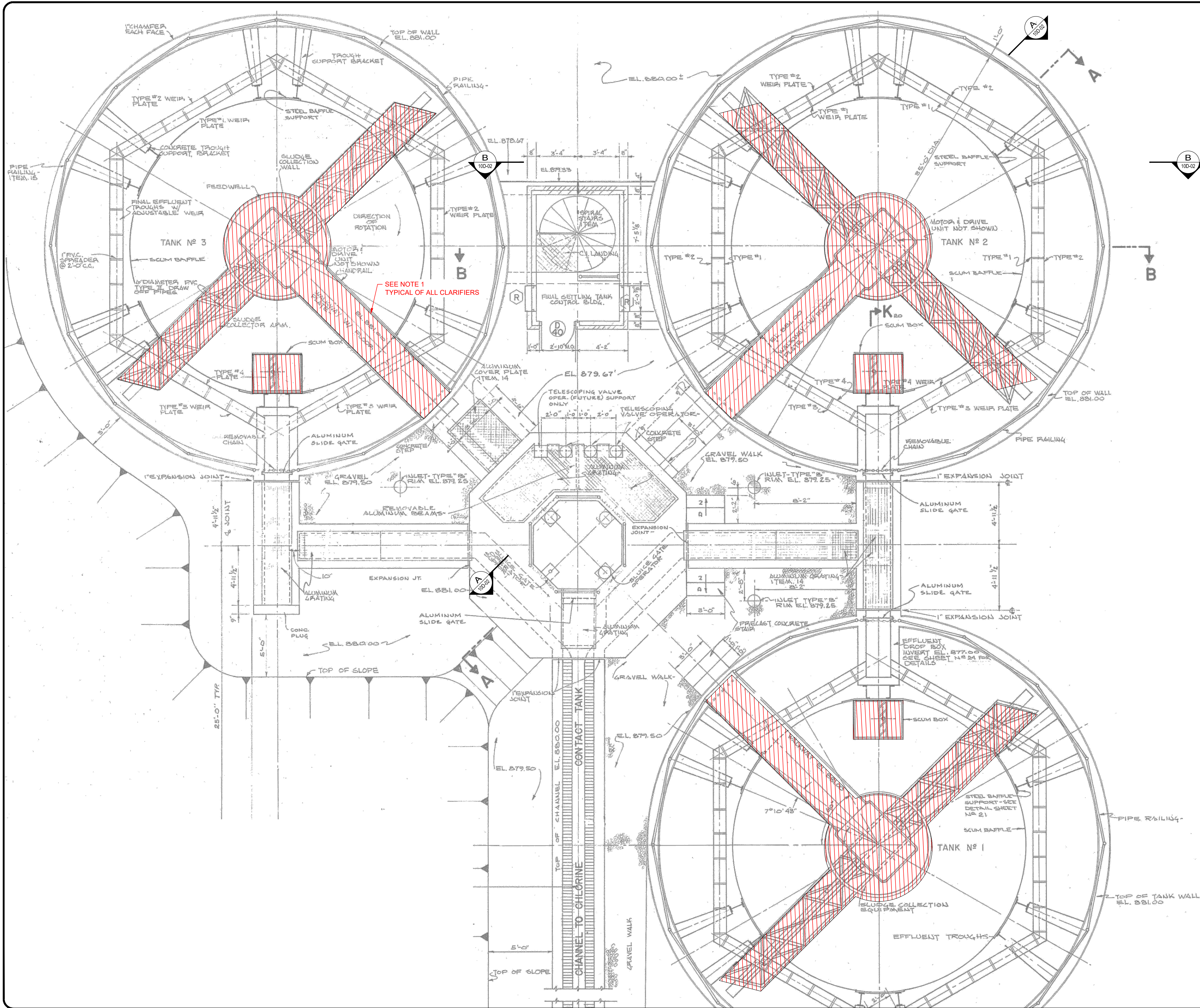
JEFFERSON WAS TEWATER TREATMENT PLANT  
CLARIFIER IMPROVEMENTS  
ASHTABULA COUNTY, OHIO

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**FINAL SETTLING TANKS - 10 SERIES  
STRUCTURAL DETAILS 2**

PROJECT NO:	
241530	
DRAWING NAME	
10S-07	
HEET	OF
11	15





**DEMO NOTES:**  
1. CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL CLARIFIER COMPONENTS BEING REPLACED.

- GENERAL NOTES:**
- CONTRACTOR SHALL REPLACE THE FOLLOWING COMPONENTS OF CLARIFIER 3, SEE SPECIFICATIONS SECTION 464323:
    - DRIVE MECHANISM
    - ACCESS BRIDGE
    - CENTER COLUMN & CAGE
    - RAKE ARMS (2)
    - FEEDWELL & SLUDGE COLLECTION WELL
    - SLUDGE RISER, SKIMMER & SCUM TROUGH
    - SCUM SKIMMER AND TROUGH
  - EFFLUENT TROUGH, SCUM BAFFLE, AND STEEL BAFFLE SUPPORTS TO BE BLASTED PER SPECIFICATIONS SECTION 099700.
  - USE LOW PRESSURE WASHING.
  - USE LESS ABRASIVE MATERIALS WHEN REAPPLYING PROTECTIVE COATINGS.
  - MANUAL SCRUBBING SHOULD BE USED INSTEAD OF SANDBLASTING.



**verdantas**

NO	REVISION	DATE

SCALE: 1/4" = 1'-0"	DATE: 2/20/25
DESIGNED BY: MLB	DRAWN BY: RLM
CHECKED BY: MLB	

VILLAGE OF JEFFERSON  
JEFFERSON WASTEWATER TREATMENT PLANT  
CLARIFIER IMPROVEMENTS  
ASHTABULA COUNTY, OHIO

**FINAL SETTLING TANKS - 10 SERIES**  
**PROCESS EQUIPMENT REPLACEMENT**

PROJECT NO:	
241530	
DRAWING NAME	
10D-01	
SHEET	OF
12	15






JEFFERSON WASTEWATER TREATMENT PLANT  
CLARIFIER IMPROVEMENTS  
ASHTABULA COUNTY, OHIO

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**FINAL SETTLING TANKS - 10 SERIES  
PROCESS - FINAL TANKS SECTIONS A & B**

PROJECT NO:	
241530	
DRAWING NAME	
10D-02	
SHEET	OF
13	15









