

WATER PARK FACILITY PROJECT AT EDWARD "PEEL" COLEMAN CENTER

1400 Sherrick Road S.E. - Canton, Ohio 44707

City of Canton

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architects

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AQUATIC DESIGN

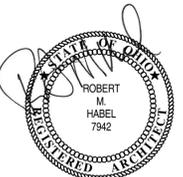
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PLUMBING, MECHANICAL & ELECTRICAL

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Robert M. Habel, License # 7942
Expiration Date 12/31/2013

LOCATION MAP

KEY MAP

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ABBREVIATIONS

ACT	ACOUSTIC CEILING TILE	IBO	INSTALLED BY OWNER
ADJ	ADJACENT	IBC	INSTALLED BY CONTRACTOR
AFF	ABOVE FINISH FLOOR	INSUL	INSULATION
AHJ	AUTHORITY HAVING JURISDICTION	MAX	MAXIMUM
ALT	ALTERNATE	MFR	MANUFACTURER
APPD SUB	APPROVED SUBSTITUTION	MIN	MINIMUM
BLDG BRG	BUILDING BEARING	MO	MASONRY OPENING
CL	CENTERLINE	NIC	NOT IN CONTRACT
CLR	CLEAR	NTS	NOT TO SCALE
CMU	CONCRETE MASONRY UNIT	OC	ON CENTER
CONC	CONCRETE	OPP	OPPOSITE
CONT	CONTINUOUS	PART	PARTIAL
COORD	COORDINATE	PLAM	PLASTIC LAMINATE
CPT	CARPET	PL	PLATE
CT	CERAMIC TILE	PT	PRESSURE TREATED
DIA	DIAMETER	REQD	REQUIRED
DIAG	DIAGONAL	REQ	REQUIRED
DIM	DIMENSION	SCHED	SCHEDULE
DET	DETAIL	SCW	SOLID CORE WOOD
DEMO	DEMOLITION	SF	SQUARE FOOT (FEET)
DWG	DRAWINGS	SHTHG	SHEATHING
EA	EACH	SIM	SIMILAR
ELEC	ELECTRICAL	SPEC	SPECIFICATION
EL	ELEVATION	SS	STAINLESS STEEL
EQ	EQUAL	T&G	TONGUE & GROOVE
EXT	EXTERIOR	TYP	TYPICAL
FE	FIRE EXTINGUISHER	TOM	TOP OF MASONRY
FEC	FIRE EXTINGUISHER CABINET	TOW	TOP OF WALL
FBO	FURNISHED BY OWNER	UL	UNDERWRITERS LABORATORY
FLR	FLOOR	UNO	UNLESS NOTED OTHERWISE
GA	GAUGE	VCT	VINYL COMPOSITION TILE
GALV	GALVANIZED	VERT	VERTICAL
GYP BD	GYPSUM BOARD	w/	WITH
HM	HOLLOW METAL	w/o	WITHOUT
HORIZ	HORIZONTAL		
HR	HOUR		
HT	HEIGHT		

GENERAL NOTES

- THE CONTRACTOR TO VERIFY ALL DIMENSIONS IN THE FIELD AND SHALL NOTIFY THE ARCHITECT OF ANY DISCREPANCIES. ALL WORK REQUIRING MEASURING SHALL BE DONE ACCORDING TO FIGURES ON DRAWING AND NOT SCALED FROM DRAWINGS. ARCHITECT WILL FURNISH ALL MISSING DIMENSIONS ON REQUEST.
- ALL WORK SHALL CONFORM TO PREVAILING CODES, ORDINANCES, AND REQUIREMENTS.
- THE CONTRACTOR IS RESPONSIBLE TO OBTAIN ALL PERMITS AND INSPECTIONS REQUIRED FOR CONSTRUCTION, AND SHALL PAY ALL APPLICABLE FEES.
- ALL PENETRATIONS OF FIRE-RATED WALL SHALL BE SEALED WITH APPROVED MATERIALS, THE FULL THICKNESS OF THE CONSTRUCTION ELEMENTS.

SYMBOLS LEGEND

ROOM NAME	ROOM NUMBER	TA#	TOILET ACCESSORY TAG
101	ROOM NUMBER	11	EQUIPMENT TAG
101	DOOR NUMBER	?	MATERIAL FINISH TAG
101	WINDOW TAG	(1'-0" A.F.F.)	CEILING HEIGHT TAG
101	SIM	PRFX-RX	INTERIOR PARTITION / EXTERIOR WALL TAG
101	DETAIL NUMBER	PRFX-RX	INTERIOR PARTITION w/ HEAD CONDITION TYPE
101	SHEET NUMBER		
101	CODED/ DEMOLITION NOTE		

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March 7, 2013

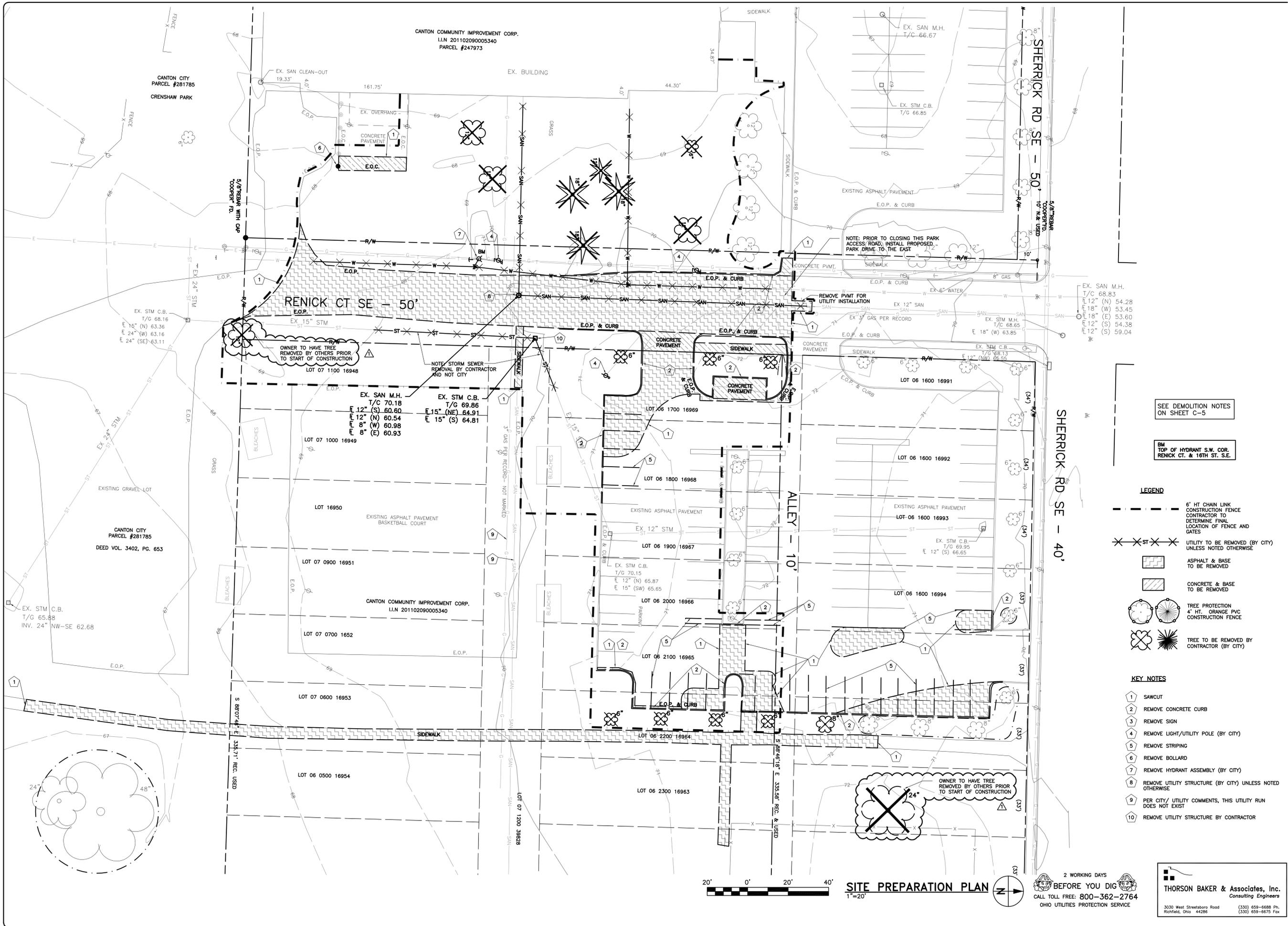
Revision

No	Date	Description

TITLE SHEET

G-001

11044



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THE CITY OF
CANTON
WILLIAM J. HEAD III, MAYOR

**EDWARD 'PEEL' COLEMAN CENTER -
SPRAY PARK**
1400 Sherrick Road S.E. - Canton, Ohio 44707

March 7, 2013

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No.	Date	Description
1	07-21-12	REVISED PER BUILDING AND ENGINEERING REVIEW COMMENTS
2	06-18-12	REVISED PER BUILDING AND ZONING REVIEW COMMENTS

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SITE PREPARATION PLAN

C-1
11044

SEE DEMOLITION NOTES ON SHEET C-5

BM TOP OF HYDRANT S.W. COR. RENICK CT. & 16TH ST. S.E.

LEGEND

- 6' HT CHAIN LINK CONSTRUCTION FENCE CONTRACTOR TO DETERMINE FINAL LOCATION OF FENCE AND GATES
- UTILITY TO BE REMOVED (BY CITY) UNLESS NOTED OTHERWISE
- ASPHALT & BASE TO BE REMOVED
- CONCRETE & BASE TO BE REMOVED
- TREE PROTECTION 4' HT. ORANGE PVC CONSTRUCTION FENCE
- TREE TO BE REMOVED BY CONTRACTOR (BY CITY)

KEY NOTES

- 1 SAWCUT
- 2 REMOVE CONCRETE CURB
- 3 REMOVE SIGN
- 4 REMOVE LIGHT/UTILITY POLE (BY CITY)
- 5 REMOVE STRIPING
- 6 REMOVE BOLLARD
- 7 REMOVE HYDRANT ASSEMBLY (BY CITY)
- 8 REMOVE UTILITY STRUCTURE (BY CITY) UNLESS NOTED OTHERWISE
- 9 PER CITY/ UTILITY COMMENTS, THIS UTILITY RUN DOES NOT EXIST
- 10 REMOVE UTILITY STRUCTURE BY CONTRACTOR

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

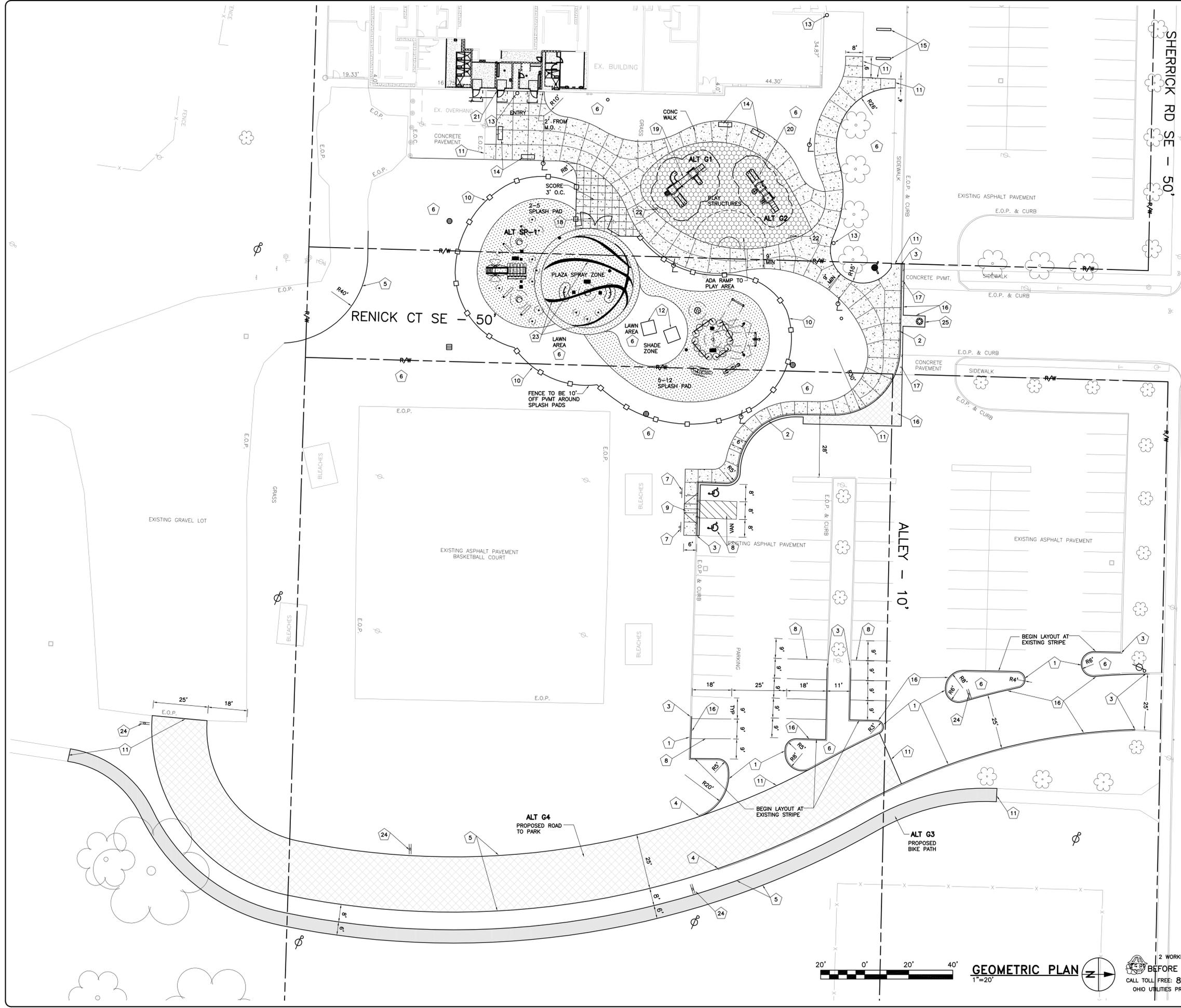
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SITE PREPARATION PLAN
1"=20'



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SEE GEOMETRIC NOTES ON SHEET C-5

LEGEND

- 4' HT CHAIN LINK FENCE
- ▨ PROPOSED STANDARD DUTY ASPHALT PAVEMENT
- ▩ PROPOSED HEAVY DUTY ASPHALT PAVEMENT
- ▧ PROPOSED STANDARD DUTY CONCRETE PAVEMENT
- ▦ PROPOSED SOFT SURFACE ENGINEERED WOOD FIBER
- ▤ PROPOSED CONCRETE SPLASH PAD SEE COUNCILMAN HUNSAKER DWG FOR LAYOUT & DETAILS
- ⊕ ALT E1 PROPOSED LIGHT FIXTURE SEE ELEC. DWG.
- ⊙ PROPOSED UTILITY POLE BY AEP

KEY NOTES

- 1 CONCRETE VERTICAL CURB
- 2 INTEGRAL CONCRETE CURB & WALK
- 3 MEET & MATCH EXISTING CURB
- 4 CURB TAPER
- 5 ASPHALT EDGE
- 6 LANDSCAPE AREA
- 7 ADA SIGN
- 8 STRIPING
- 9 TYPE 'D' HC RAMP
- 10 ALT G6-4' HIGH BLACK VINYL CHAIN LINK FENCE
- 11 MEET AND MATCH EXISTING PAVEMENT
- 12 PICNIC TABLE (BY OWNER)
- 13 TRASH RECEPTACLE (BY OWNER)
- 14 BENCH (BY OWNER)
- 15 BIKE RACK (BY OWNER)
- 16 ASPHALT PATCH (SEAL EDGES)
- 17 CONCRETE PATCH
- 18 ALT G6-10' WIDE, 4' HIGH GATE
- 19 ALT G1-PRE-K PLAY STRUCTURE (2-5 YRS) BASE BID-LAWN
- 20 ALT G2-SCHOOL AGE PLAY STRUCTURE (5-12 YRS)
- 21 ALIGN PAVEMENT EDGE WITH MASONRY OPENING (M.O.)
- 22 ALT G1 & G2-PLAY STRUCTURE "APPROPRIATE AGE" SIGN
- 23 PAINT ALL STRIPES WITH NON-SLIP PAINT SUITABLE FOR USE IN WET AREAS; ARCHITECT TO SELECT COLOR
- 24 BASE BID-"FIRE LANE NO PARKING" SIGN (FIRE DEPT. TO APPROVE SPACING)
- 25 PAVEMENT REPLACEMENT FOR UTILITY TRENCH; MATCH EXISTING; SEAL EDGES

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MICHAEL G. THORSON
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7/26/12

THE CITY OF CANTON
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1400 Sherrick Road S.E. - Canton, Ohio 44707

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GEOMETRIC PLAN
C-2
11044

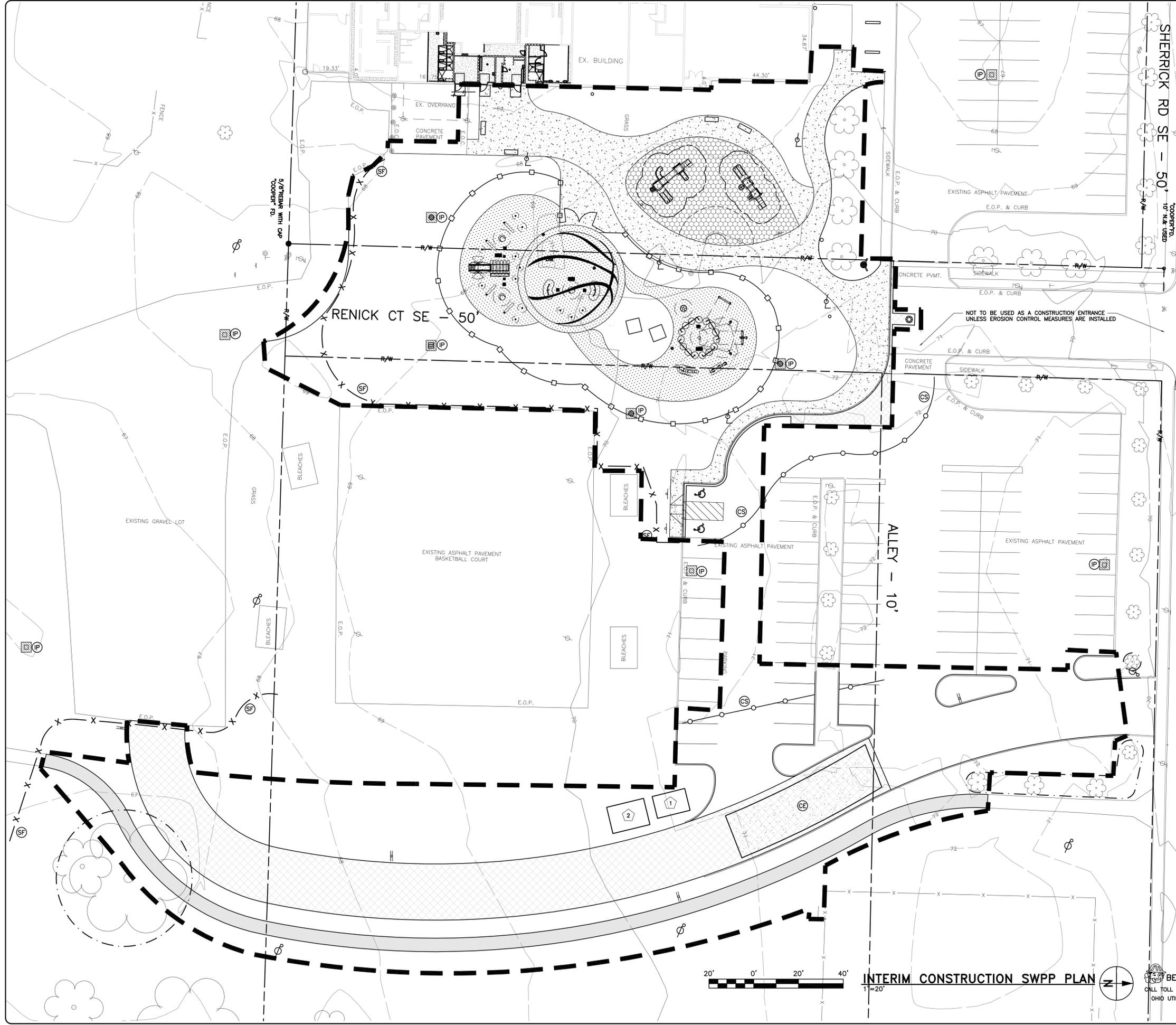


GEOMETRIC PLAN
1"=20'

2 WORKING DAYS
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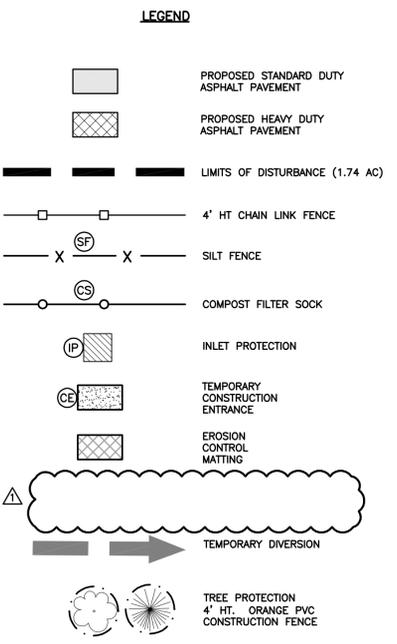
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EROSION CONTROL NOTES:

1. THE OWNER AND/OR THE CONTRACTOR SHALL MEET WITH STARK SWCD FOR A PRE-CONSTRUCTION MEETING NO LATER THAN 7 DAYS PRIOR TO SOIL DISTURBING ACTIVITY.
2. CONTRACTOR SHALL CONTACT STARK SWCD AT 330-830-7700 (EXT 5) TO SCHEDULE THE PRE-CONSTRUCTION MEETING.
3. ALL APPLICABLE ACTIVITIES AND PRACTICES SHALL COMPLY WITH THE CURRENT EDITION OF OHIO DEPARTMENT OF NATURAL RESOURCE'S RAINWATER AND LAND DEVELOPMENT MANUAL.



KEY NOTES

1. TEMPORARY CONCRETE TRUCK WASHOUT PIT (10'X15'X2') MUST NOT BE WITHIN A DRAINAGE AREA WAY
2. HAZARD WASTE, SANITARY FACILITIES AND VEHICLE MAINTENANCE AND FUELING AREA. THIS AREA MUST NOT BE WITHIN A DRAINAGE AREA WAY
3. USE COMPOST FILTER SOCK IN EXISTING PAVEMENT AREAS WHERE SILT FENCE CANNOT BE USED TO CONTROL SEDIMENT RUN-OFF.

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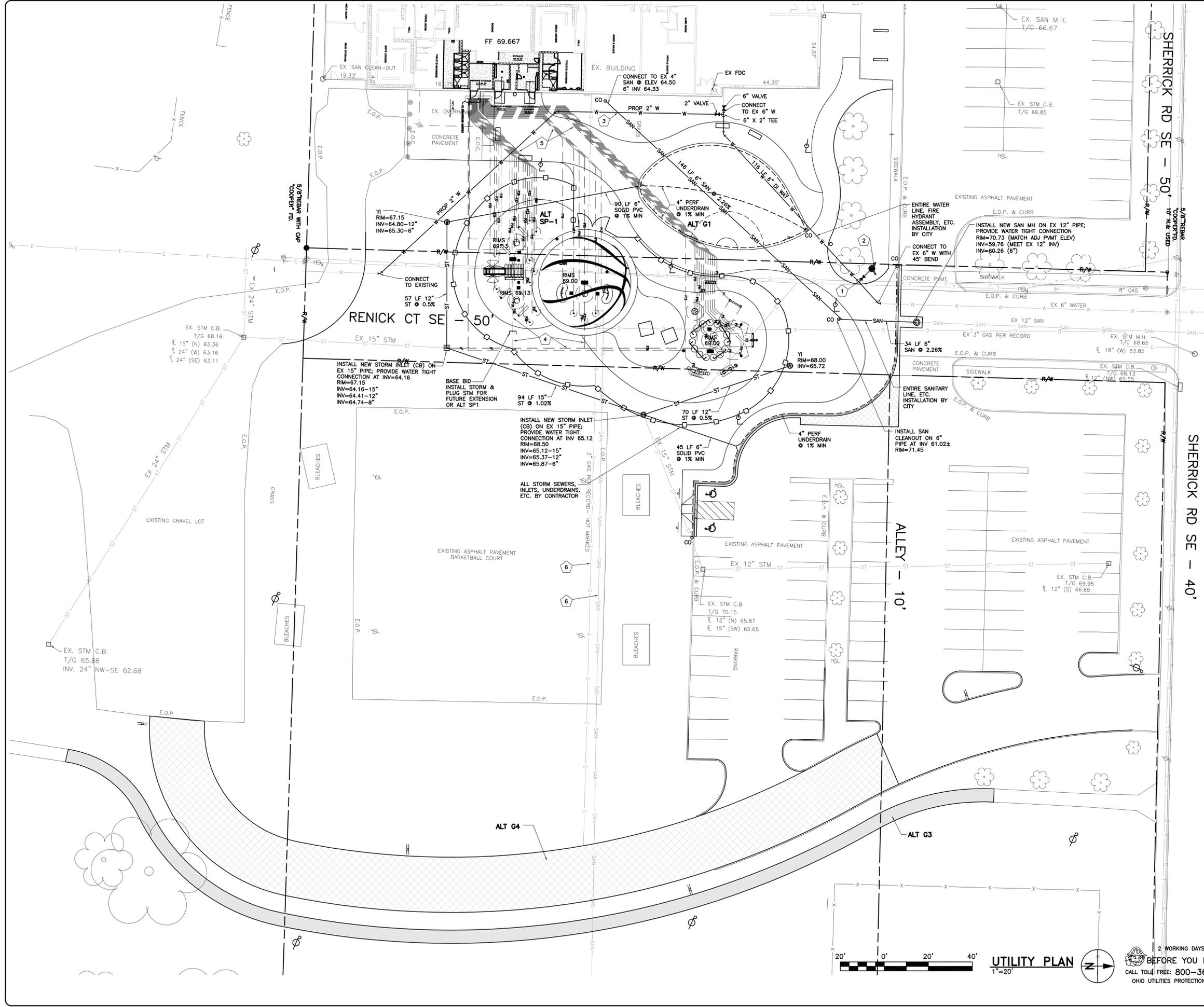
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INTERIM CONSTRUCTION SWPP PLAN
C-3
11044

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SEE UTILITY NOTES ON SHEET C-5

LEGEND

- E — EXISTING ELECTRIC
- G — EXISTING GAS
- OVH — EXISTING OVERHEAD LINE
- SAN — EXISTING SANITARY
- ST — EXISTING STORM
- T — EXISTING TELEPHONE
- W — EXISTING WATER
- E — PROPOSED ELECTRIC
- SAN — PROPOSED SANITARY
- ST — PROPOSED STORM
- T — PROPOSED TELEPHONE
- W — PROPOSED WATER
- ○ — PROPOSED LIGHT FIXTURE
- ○ — ALT E1 PROPOSED LIGHT FIXTURE SEE ELEC. DWG.
- ○ — PROPOSED UTILITY POLE BY AEP
- □ — PROPOSED CATCH BASIN/ CURB INLET
- ○ — PROPOSED CLEANOUT

KEY NOTES

- 1 6" x 6" TEE (BY CITY)
- 2 FIRE HYDRANT ASSEMBLY (BY CITY)
- 3 MAINTAIN MIN. 18" VERTICAL CLEARANCE BETWEEN SEWER LINE AND WATER LINE. LOWER WATERLINE AS REQUIRED.
- 4 FOR COORDINATION OF SPLASH PAD SEWER SERVICE, SEE SHEET SP3.0
- 5 FOR COORDINATION OF SPLASH PAD WATER SERVICE, SEE SHEET SP3.1
- 6 PER CITY/ UTILITY COMMENTS, THIS UTILITY RUN DOES NOT EXIST



UTILITY PLAN
1"=20'

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UTILITY PLAN
C-4
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DEMOLITION NOTES

- 1. THE GENERAL CONTRACTOR SHALL NOTIFY O.U.P.S. AT 1-800-362-2764 AND O.G.P.U.P.S. AT 1-800-925-0988 A MINIMUM OF TWO DAYS BEFORE THE START OF CONSTRUCTION.
- 2. REMOVAL OF STRUCTURES AND OBSTRUCTIONS: BUILDINGS, FOUNDATIONS, STRUCTURES, ASPHALT AND CONCRETE PAVEMENT, AND UTILITIES ABOVE AND BELOW GROUND SHALL BE REMOVED AND DISPOSED OF OFF SITE WITHIN STANDARDS AS OUTLINED WITHIN THE CURRENT OHIO DEPARTMENT OF TRANSPORTATION "CONSTRUCTION AND MATERIAL SPECIFICATIONS" MANUAL UNDER ITEM 202.
- 3. TREES AND OTHER SITE FEATURES NOTED TO REMAIN SHALL BE PROTECTED THROUGHOUT CONSTRUCTION WITH CONSTRUCTION FENCING. PLACE 4" HT. ORANGE CONSTRUCTION FENCING AT AND AROUND ALL NOTED SITE FEATURES AND/OR THE DRIP LINE OF ALL TREES NOTED TO BE SAVED. DO NOT STORE VEHICLES, EQUIPMENT, OR MATERIALS WITHIN THE PROTECTED AREA. OBTAIN FIELD APPROVAL FROM THE OWNER, ARCHITECT, AND/OR AUTHORIZED OWNER REPRESENTATIVE PRIOR TO ANY TREE REMOVAL. IF NECESSARY, CONTRACTOR WILL RELOCATE TO PROTECT SITE FEATURES. OTHER MEASURES MAY BE REQUIRED BY THE LANDSCAPE ARCHITECT IF ANY DAMAGE TO SUCH ITEMS OR TREES OCCURS. REMOVE FENCING AFTER CONSTRUCTION.
- 4. ALL EXISTING UTILITY CASTINGS INCLUDING MANHOLES, CATCH BASINS, VALVES, VALVE BOXES, ETC. SHALL REMAIN AND BE ADJUSTED TO PROPOSED GRADES, UNLESS NOTED OTHERWISE. THE GENERAL CONTRACTOR SHALL COORDINATE WORK WITH THE RESPECTIVE UTILITY COMPANIES.
- 5. ALL EXISTING UTILITY LINES & SERVICES WITHIN THE LIMITS OF CONSTRUCTION SHALL REMAIN AND BE PROTECTED, UNLESS NOTED OTHERWISE. CONTRACTOR SHALL COORDINATE REMOVAL OR RELOCATION WITH THE RESPECTIVE UTILITY COMPANY FOR PROPER CAPPING/SEALING/DISCONNECTING, ETC.
- 6. THE CONTRACTOR SHALL COORDINATE WORK WITH LOCAL SAFETY DEPARTMENTS TO MAINTAIN TRAFFIC CONTROL.
- 7. ALL EXISTING UTILITY POLES, LIGHT POLES, ELECTRIC HANDHOLDS, UNDERGROUND WIRING, AND SITE LIGHTING SHALL BE PROTECTED, UNLESS NOTED OTHERWISE. THE CONTRACTOR SHALL COORDINATE WORK WITH THE LOCAL POWER SUPPLY COMPANY.
- 8. CONTRACTOR SHALL KEEP ALL EXISTING UTILITIES OPERATING DURING DEMOLITION AND CONSTRUCTION AND UNTIL THE NEW SYSTEMS ARE OPERATING PROPERLY. PROVIDE TEMPORARY CONNECTIONS AS REQUIRED.
- 9. SAW CUT ALL EDGES FULL DEPTH OF PAVEMENT.
- 10. ALL SIGNS DESIGNATED TO BE REMOVED SHALL BE REINSTALLED AS DIRECTED, OR TURNED OVER TO OWNER.
- 11. COORDINATE DEMOLITION OF ALL EXISTING ITEMS WITH OTHER DRAWINGS. REMOVE/ABANDON EXISTING UTILITIES, SERVICES, SITE FEATURES AS REQUIRED.
- 12. SAWCUT EDGES FULL DEPTH OF EXISTING PAVEMENT WHERE NEW PAVEMENT ABUTS EXISTING PAVEMENT.

TRAFFIC CONTROL NOTES

- 1. ALL TRAFFIC CONTROL DEVICES SHALL BE FURNISHED, ERECTED, MAINTAINED, AND REMOVED BY THE CONTRACTOR IN ACCORDANCE WITH THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (PART 7 CONSTRUCTION AND MAINTENANCE OPERATIONS). COPIES ARE AVAILABLE FROM THE ODOT, BUREAU OF TRAFFIC, 25 SOUTH FRONT STREET, COLUMBUS, OHIO 43215.
- 2. STEADY-BURNING, TYPE "C," LIGHTS SHALL BE REQUIRED ON ALL BARRICADES, DRUMS AND SIMILAR TRAFFIC DEVICES IN USE AT NIGHT. CONES ARE NOT PERMITTED TO BE USED FOR NIGHT WORK.
- 3. ACCESS TO ALL ADJOINING PROPERTIES SHALL BE MAINTAINED AT ALL TIMES.
- 4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING MAIL SERVICE IN THE CONSTRUCTION AREA.
- 5. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO ADEQUATELY BARRICADE THE STREET IN THE VICINITY OF THE WORK AREAS UNTIL SUCH TIME AS THE STREET IS OPEN TO TRAFFIC.

ROADWAY AND PAVEMENT NOTES

- 1. PAVEMENT SECTION BASED ON ASSUMPTIONS, CONTRACTOR TO VERIFY WITH GEOTECHNICAL INVESTIGATION PAID FOR BY THIS CONTRACTOR.
- 2. WHEN OPEN-CUTTING OF EXISTING PAVEMENT IS PERMITTED, CONTROLLED DENSITY BACKFILL MAY BE USED IN PLACE OF COMPACTED GRANULAR BACKFILL. ASPHALT SURFACES SHALL BE HEAT WELDED.
- 3. WHERE IT IS NECESSARY TO DISTURB EXISTING PAVEMENTS, THE PAVEMENT SHALL BE SAW CUT IN NEAT, STRAIGHT LINES. THE DEPTH OF THE SAWCUT SHALL BE FULL DEPTH OF PAVEMENT.
- 4. THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION WHEN EXCAVATING IN THE VICINITY OF EXISTING TREES TO BE PRESERVED, TAKING ALL PRACTICAL MEASURES TO PROTECT AND PRESERVE THEM.
- 5. ALL EARTHWORK CONSTRUCTION METHODS AND MATERIALS FOR EXCAVATION, EMBANKMENT, SUBGRADE COMPACTION, AND PROOF ROLLING SHALL FOLLOW AND MEET THE CURRENT OHIO DEPARTMENT OF TRANSPORTATION "CONSTRUCTION AND MATERIAL SPECIFICATIONS" MANUAL UNDER ITEMS 203 AND 204.
- 6. ALL PAVING OPERATIONS AND MATERIALS SHALL CONFORM TO AND MEET THE REQUIREMENTS AS OUTLINED WITHIN THE CURRENT OHIO DEPARTMENT OF TRANSPORTATION "CONSTRUCTION AND MATERIAL SPECIFICATIONS" MANUAL.
- 7. WALK REPLACEMENT: APPROXIMATE LOCATIONS FOR THE REQUIRED REMOVAL/REPLACEMENT OF EXISTING WALK ARE AS SHOWN ON THE PLAN. WALK REMOVAL/REPLACEMENT LIMITS SHALL TYPICALLY EXTEND TO THE NEAREST EXISTING WALK JOINT. THE EXACT LOCATIONS AND LIMITS OF EXISTING WALK REMOVAL/REPLACEMENT SHALL BE ESTABLISHED AT THE JOB SITE. THE EXISTING WALK SHALL BE REMOVED IN A MANNER THAT WILL NOT DISTURB, DAMAGE OR UNDERMINE ADJACENT WALK, CURB, DRIVES OR DRIVE APRONS INTENDED TO REMAIN. ANY ADJACENT FACILITIES DAMAGED AS A RESULT OF THE CONTRACTOR'S NEGLIGENCE, AS DETERMINED BY THE ENGINEER, AND WHICH ARE NOT OTHERWISE DESIGNATED FOR REPLACEMENT, SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE. REPLACEMENT WALKS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE DETAILS CONTAINED HEREON. CURB RAMPS AS SHOWN IN THESE PLANS ARE SUBJECT TO ADJUSTMENT TO MINIMIZE CONFLICTS WITH EXISTING CATCH BASINS, MANHOLES, UTILITY POLES, HYDRANTS OR OTHER SUCH APPURTENANCES.
- 8. CONCRETE WALKS: ALL CONCRETE WALK SHALL BE A MINIMUM OF 4" THICK AND HAVE A 2" COMPACTED SCREENINGS BED WHICH MEETS THE REQUIREMENTS OF ODOT ITEM 703.10 EXCEPT THAT THE MINIMUM TOTAL PERCENT PASSING THE NO. 100 SIEVE SHALL BE FIVE (5) PERCENT. WHERE THE WALK CROSSES A FLEXIBLE DRIVEWAY, THE THICKNESS SHALL BE INCREASED TO SIX (6) INCHES. TRANSVERSE EXPANSION JOINT FILLER (ODOT ITEM 705.03) SHALL BE CONSTRUCTED AT INTERVALS OF NOT MORE THAN 30 FEET. THE FILLER SHALL BE PLACED AT THE TRANSVERSE DIVISION JOINTS FOR THE FULL DEPTH/WIDTH OF THE CONCRETE WALK AND SHALL BE TRULY NORMAL TO GRADE. THE FINAL SURFACE SHALL BE TEXTURED BY USE OF AN ACCEPTED BROOM SO AS TO PRODUCE A UNIFORM, GRITTY, TRANSVERSE TEXTURE.
- 9. ALL ROAD SURFACES, BERMS, LAWN AREAS OR RIGHT-OF-WAYS DISTURBED BY CONSTRUCTION OF ANY PART OF THIS IMPROVEMENT ARE TO BE RESTORED COMPLETELY TO THE PRE-CONSTRUCTION CONDITION OR BETTER WHEN ORDERED BY THE LANDSCAPE ARCHITECT AND ALL ITEMS SHALL BE INCLUDED IN THE UNIT PRICES BID.

LAYOUT/GEOMETRY NOTES

- 1. SEE ARCHITECTURAL DRAWINGS FOR EXACT BUILDING DIMENSIONS FOR LAYOUT.
- 2. CONTRACTOR IS OBLIGATED TO VERIFY ALL DIMENSIONS ON THE GROUND AND REPORT ANY LAYOUT DISCREPANCIES IMMEDIATELY TO THE OWNER'S REPRESENTATIVE.
- 3. PRECISE LAYOUT SHALL BE DETERMINED ON THE GROUND AND APPROVED BY THE OWNER'S REPRESENTATIVE.
- 4. BENCHMARK AND CONTROL POINTS ARE SHOWN ON THE DRAWING. LAYOUT FROM THESE REFERENCE POINTS IS THE RESPONSIBILITY OF THE CONTRACTOR.
- 5. ± INDICATES APPROXIMATE DIMENSIONS.
- 6. DO NOT SCALE FROM THIS DRAWING. ALL WRITTEN DIMENSIONS SHALL GOVERN. ALL ANGLES ARE 90° UNLESS OTHERWISE NOTED. DIMENSIONS ARE TO FACE OF CURB AND/OR TO FACE OF BUILDING.
- 7. SIGNAGE FOR EACH ACCESSIBLE PARKING SPACE TO BE PER CITY REQUIREMENTS.
- 8. THE CURB AND SIDEWALK RAMPS SHALL HAVE A DETECTABLE WARNING.
- 9. SEE GRADING PLAN FOR SOIL BORING LOCATIONS.
- 10. ALL PROPERTY PINS DISTURBED DURING THE COURSE OF CONSTRUCTION SHALL BE RESET AT THE CORRECT LOCATION. COST OF THIS WORK TO BE INCLUDED IN THE UNIT PRICES BID.

GRADING NOTES

- 1. GRADES/SLOPES SHALL BE STRAIGHT LINE BETWEEN POINT ELEVATIONS AND CONTOURS SHOWN.
- 2. SPOT ELEVATIONS SHOWN ARE BOTTOM OF CURB UNLESS NOTED OTHERWISE. ALL POINTS SHOWN ARE INTENDED TO BE LOCATED AT C'S, PT'S, MIDPOINTS OF CURB RADI, INTERSECTIONS, AND CORNER LOCATIONS. TOP OF CURB ELEVATIONS ARE 6" HIGHER THAN SHOWN.
- 3. ALL EMBANKMENT UNDER PAVEMENTS AND STRUCTURES SHALL BE COMPACTED WITH SELECT SITE MATERIAL PER ODOT SPEC. 203.
- 4. ALL AREAS AFFECTED BY SITE WORK, EXCLUDING PAVED, LANDSCAPED AND STRUCTURE AREAS, SHALL BE SEEDED AND MULCHED PER ODOT SPEC. 659.
- 5. CONTRACTOR SHALL STRIP ANY TOPSOIL AND STOCKPILE PRIOR TO SITE GRADING OPERATION. CONTRACTOR SHALL REPLACE STOCKPILED TOPSOIL TO A THICKNESS OF 6 INCHES PER ODOT SPEC. 653 IN ALL LANDSCAPED AREAS. HAUL EXCESS SOIL OFF-SITE OR BRING IN TOPSOIL UNLESS NOTED OTHERWISE. TOPSOIL SHALL BE DEFINED IN LAWN AND GRASSES SPECIFICATIONS. IF LAWN AND GRASSES SPECIFICATIONS IS NOT PROVIDED, TOPSOIL SHALL BE DEFINED PER ODOT SPEC. 659 AND CONTAIN NO OBJECTS GREATER THAN 2MM IN DIAMETER.
- 6. SLOPES INDICATED AS PERCENTAGES ARE APPROXIMATE.
- 7. ANY SLOPES GREATER THAN 2:1 SHALL BE STABILIZED PER ODOT 668 SEEDING AND JUTE MATTING.
- 8. SEE UTILITY PLAN FOR ADDITIONAL STORM STRUCTURE DATA.
- 9. PRIOR TO SITE EXCAVATION AND GRADING, THE CONTRACTOR IS TO CREATE A TEMPORARY DIVERSION DITCH OR DITCHES TO PREVENT SITE STORM WATER RUNOFF AND SEDIMENTS FROM ENTERING EXISTING DITCHES AND/OR ADJACENT PROPERTIES. THE TEMPORARY DITCH(ES) ARE TO DRAIN INTO THE TEMPORARY SEDIMENT TRAP. THE TEMPORARY DITCH(ES) ARE TO BE FILLED AND THE GRADES RETURNED TO THEIR ORIGINAL OR PROPOSED ELEVATIONS AND SEEDED PER ODOT SPEC. 659. SEE S.W.P.P. PLAN FOR LOCATION OF TEMPORARY SEDIMENT TRAP(S).
- 10. THE CONTRACTOR SHALL RESTORE ALL DISTURBED AREAS TO EQUAL OR BETTER CONDITION THAN EXISTED BEFORE CONSTRUCTION. DRAINAGE DITCHES OR WATER COURSES THAT ARE DISTURBED BY CONSTRUCTION SHALL BE RESTORED TO THE GRADES AND CROSS SECTIONS THAT EXISTED BEFORE CONSTRUCTION.
- 11. NO NON-RUBBER TIRE VEHICLE SHALL BE MOVED ON STREETS. EXCEPTIONS MAY BE GRANTED WHERE SHORT DISTANCES AND SPECIAL CIRCUMSTANCES ARE INVOLVED. GRANTING OF EXCEPTIONS MUST BE IN WRITING AND ANY RESULTING DAMAGE MUST BE REPAIRED TO THE SATISFACTION OF THE MUNICIPAL AUTHORITY.
- 12. SEE SHEET C-6 & C-7 FOR EROSION CONTROL NOTES & DETAILS.
- 13. SLOPES SHALL NOT EXCEED 2% IN ANY DIRECTION WITHIN HANDICAP PARKING AREA.
- 14. EXISTING SOILS ON SITE MAY BE USED AS SUBGRADE MATERIAL IF APPROVED BY THE PROJECT GEOTECHNICAL ENGINEER.

GENERAL UTILITY NOTES

- 1. EXISTING UTILITIES SHOWN ARE FROM BEST AVAILABLE RECORDS AND FIELD INVESTIGATION, AND ARE NOT NECESSARILY COMPLETE OR EXACT. THE CONTRACTOR IS RESPONSIBLE FOR THE INVESTIGATION, LOCATION, SUPPORT, PROTECTION, AND RESTORATION OF ALL EXISTING UTILITIES AND APPURTENANCES WHETHER SHOWN ON THESE PLANS OR NOT. CONTRACTOR SHALL REPAIR ANY DAMAGE AT NO COST TO THE PROJECT. THE CONTRACTOR SHALL EXPOSE ALL UTILITIES OR STRUCTURES PRIOR TO CONSTRUCTION TO VERIFY THE VERTICAL AND HORIZONTAL LOCATIONS. MAKE SUCH ADJUSTMENTS IN ELEVATIONS AS ARE REQUIRED TO PROVIDE SUFFICIENT CLEARANCE BETWEEN THE EXISTING AND PROPOSED UTILITIES. CALL THE OHIO UTILITIES PROTECTION SERVICE (800) 925-0988 AT LEAST TWO (2) WORKING DAYS PRIOR TO UNDERGROUND PROTECTION SERVICE (800) 925-0988 AT LEAST TWO (2) WORKING DAYS PRIOR TO COMMENCING WORK.
- 2. WHEN UNKNOWN OR INCORRECTLY LOCATED UNDERGROUND UTILITIES ARE ENCOUNTERED IN THE RIGHT-OF-WAY DURING CONSTRUCTION, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER, ENGINEER AND THE MUNICIPAL ENGINEER.
- 3. ALL TRENCHES SHALL BE BACKFILLED OR SECURELY PLATED DURING NONWORKING HOURS.
- 4. AT UTILITY CROSSINGS WHERE THE EXISTING UTILITY IS EXPOSED IN THE TRENCH, BACKFILL SHALL CONSIST OF COMPACTED GRANULAR MATERIAL IN ACCORDANCE WITH CMS ITEM 603 BETWEEN THE DEEPER AND SHALLOWER PIPE. WHERE PROPOSED UTILITIES CROSS PROPOSED OR EXISTING PAVEMENT AREAS, BACKFILL SHALL BE COMPACTED GRANULAR MATERIAL IN ACCORDANCE WITH CMS ITEM 603 EXTENDING AT LEAST 3 FEET BEYOND THE BACK OF CURB OR EDGE OF PAVEMENT.
- 5. CONTRACTOR SHALL VERIFY AND COORDINATE SIZE AND LOCATION OF GAS LINE WITH MECHANICAL ENGINEER AND UTILITY COMPANY.
- 6. ALL DISTURBED AND/OR DAMAGED STORM SEWER PIPES, FIELD TILE AND APPURTENANCES, PAVEMENTS, BERMS AND DITCHES SHALL BE REPAIRED AND/OR REPLACED TO PRE-CONSTRUCTION CONDITION OR BETTER.
- 7. COORDINATE LAYOUT OF ALL SITE UTILITIES WITH SITE GEOMETRIC PLANS.
- 8. REMOVE EXISTING ASPHALT/CONCRETE TO ALLOW FOR INSTALLATION OF UTILITIES - SAW CUT ALL EDGES.
- 9. EXCEPT AS MAY BE MODIFIED SPECIFICALLY BY THESE PLANS, OR LOCAL AUTHORITY REQUIREMENTS, ALL UTILITY WORK AND MATERIALS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIALS SPECIFICATIONS, RECENT EDITION.

SEWER NOTES (LOCAL AUTHORITY SHALL GOVERN)

- 1. ROOF DRAINS, FOUNDATION DRAINS, AND OTHER CLEAN WATER CONNECTIONS TO THE SANITARY SEWER SYSTEM ARE PROHIBITED.
- 2. ALL SEWERS CONSTRUCTED UNDER THIS PLAN SHALL MEET THE REQUIREMENTS OF CMS ITEM 603.
- 3. THE MINIMUM REQUIREMENTS FOR SANITARY SEWERS SHALL BE PVC PLASTIC SEWER PIPE, ASTM D-3034, SDR 35. SANITARY SEWER LATERALS SHALL BE LAID AT A MINIMUM GRADE OF 1.0% WITH PREMIUM JOINTS.
- 4. THE MINIMUM REQUIREMENTS FOR STORM DRAIN PIPE, OTHER THAN UNDERDRAINS, SHALL BE REINFORCED CONCRETE PIPE (RCP) PER ODOT ITEM 706.02 OR HDPE PER ODOT ITEM 707.33, AS SPECIFIED.
- 5. CURB INLETS, MANHOLES, AND CATCH BASINS SHALL BE CHANNIELED AS DIRECTED.
- 6. ALL CATCH BASINS WITHIN PAVEMENT AREAS SHALL HAVE UNDERDRAINS AS DETAILED.
- 7. ARCHITECTURAL DRAWINGS SHOWING DOWNSPOUT LOCATIONS SHALL GOVERN WHEN IN CONFLICT WITH LOCATIONS SHOWN ON UTILITY PLAN. DOWNSPOUT TEE ELEVATIONS SHALL BE FIELD ADJUSTED IF NECESSARY TO PROVIDE 0.5% MINIMUM SLOPE ON ALL ROOF DRAINS. ALL DOWNSPOUT CONNECTION LINES SHALL BE RUN AT A MINIMUM OF 1% SLOPE INTO THE TEE. ELEVATIONS GIVEN FOR TEES ARE FOR THE BRANCH CONNECTIONS, NOT FOR THE ROOF DRAINS. SEE ARCHITECTS DRAWING FOR DOWNSPOUT BOOT DETAIL.

WATER NOTES (LOCAL AUTHORITY SHALL GOVERN)

- 1. ALL WATER SERVICE MATERIALS AND INSTALLATIONS SHALL BE IN ACCORDANCE WITH THE CURRENT RULES AND REGULATIONS OF THE GOVERNING WATER AUTHORITY. ALL DUCTILE IRON PIPE SHALL BE MIN. CLASS 53. ALL SERVICE LATERALS SHALL BE TYPE "K" COPPER.
- 2. WATER SERVICE SHALL BE LAID WITH A MINIMUM OF 5'-0" FROM THE FINISHED GRADE TO THE TOP OF THE WATER MAIN.
- 3. MINIMUM CLEARANCE BETWEEN SANITARY SEWER AND WATER LINES SHALL BE 10' HORIZONTAL OR 1'-6" VERTICAL OUTSIDE OF PIPE.
- 4. ALL VALVES, HYDRANTS, BACKFLOW PREVENTION, AND OTHER APPURTENANCES SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS OF THE WATER AUTHORITY AND LOCAL FIRE AUTHORITY.
- 5. THE CONTRACTOR SHALL NOTIFY THE LOCAL WATER AUTHORITY AT LEAST TWO WORKING DAYS BEFORE TAPPING THE EXISTING MAIN.
- 6. CONTRACTOR TO PROVIDE MINIMUM 12" VERTICAL CLEARANCE BETWEEN OUTSIDE OF STORM AND OUTSIDE OF WATER AT ALL LOCATIONS. WATER SHALL BE DEFLECTED OR FITTINGS SHALL BE PROVIDED TO MAINTAIN STANDARD CLEARANCE. WATER SHALL CROSS BENEATH STORM IF 3.5' OF COVER CAN NOT BE MAINTAINED.
- 7. THE FIRE PROTECTION CONTRACTOR/DESIGNER MUST VERIFY ACTUAL WATER FLOWS AT THE SITE PRIOR TO DESIGNING THE FIRE PROTECTION SYSTEM.

ONE-FOOT MINIMUM VERTICAL AND HORIZONTAL CLEARANCE MUST BE MAINTAINED BETWEEN DEO'S EXISTING PIPELINE(S) AND ALL OTHER IMPROVEMENTS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN THE LATERAL AND SUBJACENT SUPPORT OF DEO'S PIPELINE(S), IN COMPLIANCE TO 29 CFR, PART 1926, SUBPART P, (SAFE EXCAVATION & SHORING). EXTREME CARE SHOULD BE TAKEN NOT TO HARM ANY DEO FACILITY OR APPURTENANCE. NOTIFY DEO IMMEDIATELY IF ANY HARM HAS BEEN INFLECTED UPON DEO'S FACILITIES (PIPELINES, ETC.) OR APPURTENANCES THERETO (PIPE COATING, TRACER WIRE, CATHODIC PROTECTION WIRES & DEVICES, TEST SITES, VALVE BOXES, ETC.).

PLANTING NOTES AND SPECIFICATIONS

- 1. THESE DOCUMENTS ARE MEANT TO SERVE AS A GUIDE FOR CONSTRUCTION. MODIFICATIONS TO THE DESIGNS MAY BE REQUIRED TO ACCOMMODATE VARYING FIELD CONDITIONS OR MODIFIED PLANT ARRANGEMENTS.
- 2. CONTRACT SHALL CONSIST OF TOTAL UNITS AUTHORIZED BY OWNER.
- 3. UNLESS OTHERWISE DIRECTED, CONTRACTOR SHALL PROTECT ALL TREES SCHEDULED TO REMAIN. FENCE THOSE WHICH MAY RISK DAMAGE FROM CONSTRUCTION EQUIPMENT OR WORK.
- 4. ALL TREES WHICH ARE TO BE REMOVED SHALL BE REMOVED IN A MANNER WHICH WILL NOT INJURE PLANT MATERIAL SCHEDULED TO REMAIN. STUMPS ARE TO BE COMPLETELY REMOVED AND HAULED OFF SITE. NO BURIAL OR BURNING WILL BE PERMITTED. STUMPS WHICH ARE NOT IN THE PATH OF PROPOSED PAVEMENTS, STRUCTURES OR OTHER SIMILAR IMPROVEMENTS MAY BE GROUND IN PLACE.
- 5. THE GENERAL CONTRACTOR WILL PROVIDE AND PLACE 9" OF TOPSOIL. THE LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR ALL FINE GRADING RELATING TO HIS WORK (WHEN APPLICABLE).
- 6. TREES & VEGETATION WITHIN LIMITS OF CONSTRUCTION SHALL BE CLEARED AND GRUBBED UNLESS NOTED OTHERWISE.
- 7. BEFORE PLANTING, DETERMINE LOCATION OF ALL UNDERGROUND UTILITIES AND STRUCTURES AND PERFORM WORK IN A MANNER WHICH WILL AVOID POSSIBLE DAMAGE. HAND EXCAVATE, AS REQUIRED. IF CONDITIONS DETRIMENTAL TO PLANT GROWTH ARE ENCOUNTERED, SUCH AS RUBBLE FILL, ADVERSE DRAINAGE CONDITIONS, OR OBSTRUCTIONS, NOTIFY LANDSCAPE ARCHITECT BEFORE PLANTING.
- 8. ALL PLANT MATERIAL QUALITY AND SIZES WILL CONFORM TO THE CURRENT ISSUE OF THE AMERICAN STANDARD FOR NURSERY STOCK PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN. PLANT MATERIAL MUST BE SELECTED FROM NURSERIES THAT HAVE BEEN INSPECTED AND CERTIFIED BY STATE PLANT INSPECTORS. NOMENCLATURE WILL BE IN ACCORDANCE WITH HORTUS.111 BY L.H. BAILEY.
- 9. SEE SHEET L-1 FOR PLANT MATERIAL LIST. TOTAL QUANTITIES OF MATERIALS SHOWN ON LANDSCAPE DRAWINGS SHALL TAKE PRECEDENCE OVER QUANTITIES SHOWN ON THE PLANT MATERIAL LIST. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL QUANTITIES ON THE PLANTING PLAN.
- 10. REPORT ANY DISCREPANCIES IN THE PLANS TO THE LANDSCAPE ARCHITECT PRIOR TO START OF CONSTRUCTION. LANDSCAPE ARCHITECT IS TO BE THE AUTHORITY FOR INTERPRETATION OF PLAN(S) AND QUALITY OF WORK.
- 11. THE LANDSCAPE ARCHITECT RESERVES THE RIGHT TO INSPECT THE PLANTS EITHER AT THE NURSERY OR AT THE JOB SITE PRIOR TO PLANTING. CONTRACTOR SHALL LABEL AT LEAST ONE PLANT OF EACH VARIETY WITH A SECURELY ATTACHED WATERPROOF TAG BEARING LEGIBLE DESIGNATION OF THE BOTANICAL AND COMMON NAMES.
- 12. CONTRACTOR SHALL NOT MAKE PLANT SUBSTITUTIONS. IF SPECIFIED LANDSCAPE MATERIAL IS NOT OBTAINABLE, SUBMIT PROOF OF NON-AVAILABILITY TO LANDSCAPE ARCHITECT TOGETHER WITH A PROPOSAL FOR USE OF EQUIVALENT MATERIAL.
- 13. WHERE FORMAL ARRANGEMENTS OR CONSECUTIVE ORDER OF TREES OR SHRUBS ARE SHOWN, SELECT STOCK FOR UNIFORM HEIGHT AND SPREAD TO ASSURE SYMMETRY IN PLANTING.
- 14. DO NOT BEND OR BIND-TIE TREES OR SHRUBS IN SUCH A MANNER AS TO DAMAGE BARK, BREAK BRANCHES OR DESTROY NATURAL SHAPE. PROVIDE PROTECTIVE COVERING DURING DELIVERY. DO NOT DROP BALLED AND BURLAPPED STOCK DURING DELIVERY. IF PLANTING IS DELAYED MORE THAN 6 HOURS AFTER DELIVERY, SET TREES AND SHRUBS IN SHADE, PROTECT FROM WEATHER AND MECHANICAL DAMAGE, AND KEEP ROOTS MOST BY COVERING WITH MULCH, BURLAP OR OTHER ACCEPTABLE MEANS OF RETAINING MOISTURE.
- 15. PREPARATION OF PLANTING BEDS, LOOSEN SUBGRADE TO A MINIMUM DEPTH OF 6". REMOVE STONE OVER 1" IN ANY DIMENSION, STICKS, STONES, RUBBISH AND OTHER EXTRANEOUS MATTER. ALL BEDS SHALL BE EDGED TO FORM A NEAT AND STRAIGHT, WELL-DEFINED CUT EDGE. BUILD ALL PLANT BEDS WITH A TOTAL 12" OF SETTLED PLANTING SOIL. ADD TOPSOIL IN SUFFICIENT QUANTITY TO RAISE BED APPROXIMATELY 2"-3" ABOVE FINISHED ADJACENT GRADES. WHERE BED GRADES MEET ADJACENT GRADES, THE EDGE OF THE BED SHALL BE SLOPED GRADUALLY DOWN TO MEET THE ADJACENT GRADE 1" BELOW IT. THE FINISHED MULCH GRADE SHALL BE 1" BELOW THE ADJACENT LAWN OR PAVEMENT GRADE TO PREVENT IT FROM WASHING ONTO THE ADJACENT GRADES. PROVIDE POSITIVE DRAINAGE AWAY FROM ALL BUILDINGS AND AROUND OR AWAY FROM PLANTING BEDS TO PREVENT PONDING OF WATER. DO NOT RAISE BED GRADES, FINISHED GRADES, OR MULCH ABOVE FINISHED FLOOR ELEVATIONS.
- 16. PLANT MATERIAL SHALL BE SET IN THE CENTER OF AN INDIVIDUAL PIT AND SET PLUMB AND STRAIGHT. ALL PLANTS SHALL BE ADJUSTED TO CONFORM AND ALIGN WITH SURROUNDING PLANTS AND PROPERLY FACED SO AS TO GIVE THE BEST EFFECT. SHRUBS SHALL BE SET TO WITHIN ONE FOOT OF TRUNK OF TREES AND SHRUBS WITHIN PLANTING BED, AND WITHIN 6" OF EDGE OF BED. ALL NYLON OR PLASTIC TWINE SHALL BE REMOVED FROM THE BASE OF ALL PLANTS. ALL NON-TREATED BURLAP AND/OR NON-ROT PROOF BURLAP IS TO BE REMOVED FROM THE TOP HALF OF THE ROOT BALL. ALL TREATED BURLAP OR POLYPROPYLENE BURLAP TO BE COMPLETELY REMOVED FROM THE PLANTING PIT. CONTAINER GROWN PLANTS TO HAVE 3 TO 4 SLICES THROUGH THE ROOTS AND THE ROOTS ON THE OUTSIDE OF THE PLANT BALL WILL BE WORKED FREE FROM THE SOIL OR ROOT MASS MAY BE BUTTERFLIED. BACKFILL PIT LOOSELY UNTIL FULL. BACKFILL SHALL BE SETTLED BY WATERING AND REFLLED AS NECESSARY. DISH TOP OF BACKFILL TO ALLOW FOR MULCHING.
- 17. PLANTING SOIL FOR BACKFILLING DECIDUOUS PLANTS BEDS OR PITS SHALL CONSIST OF 1/4 ORIGINAL ON-SITE SOIL AND 3/4 SANDY LOAM OR LOAM SOIL AS DEFINED BY U.S.D.A. SOIL CONSERVATION SERVICE, SOIL CLASSIFICATION SYSTEM. THE PLANTING MIXTURE IS TO BE FREE FROM ADMIXTURE OF SUBSOIL, HEAVY CLAY, COARSE SAND, STONES, PLANTS, ROOTS, STICKS, AND ANY OTHER FOREIGN MATERIALS. 95% OF THE PLANTING TOPSOIL SHALL PASS A 2.0 MIL SIEVE. THE ORGANIC CONTENT SHALL 4% TO 12% OF THE TOTAL DRY WEIGHT. ADD GRANULAR "SOIL MOIST" OR EQUAL TO THE TOPSOIL MIX, APPLIED PER THE MANUFACTURER'S RECOMMENDED RATES FOR THE SIZE AND TYPE OF PLANT MATERIAL SPECIFIED, IF NO IRRIGATION IS TO BE APPLIED. MIX IN APPROPRIATE QUANTITIES OF 20-10-5 "AGRIFORM" SOLID FERTILIZER TABLETS OR EQUAL TO ALL PLANTINGS.
- 18. IF THE QUALITY OR QUANTITY OF ON-SITE TOPSOIL STOCKPILED IS INSUFFICIENT TO COMPLETE WORK, PROVIDE IMPORTED TOPSOIL. OBTAIN RIGHTS AND PAY ALL COSTS FOR IMPORTED TOPSOIL MATERIAL.
- 19. PROPOSED TOPSOIL SHALL BE ACCEPTABLE TO THE LANDSCAPE ARCHITECT AND SOILS TESTING FIRM.
- 20. AFTER PLANTING, PRUNE BRANCHES OF DECIDUOUS STOCK TO BALANCE LOSS OF ROOTS IN SUCH A MANNER TO PRESERVE NATURAL CHARACTER APPROPRIATE TO PARTICULAR REQUIREMENTS OF THE PLANT. REMOVE BROKEN, DAMAGED AND UNSYMMETRICAL BRANCHES AND SUFFICIENT OTHER GROWTH TO INSURE HEALTHY AND SYMMETRICAL GROWTH OF NEW WOOD. DO NOT TRIM THE CENTRAL LEADER. APPLY ANTI-DESICCANT USING POWER SPRAY TO PROVIDE AN ADEQUATE FILM OVER TRUNKS, BRANCHES, STEMS, TWIGS AND FOLIAGE. IF DECIDUOUS TREES OR SHRUBS ARE MOVED IN FULL-LEAF, SPRAY WITH ANTI-DESICCANT AT NURSERY BEFORE MOVING AND AGAIN IN TWO WEEKS AFTER PLANTING.
- 21. TREE STAKING SHOULD NOT BE REQUIRED FOR ALL PLANTINGS, BUT DETERMINED ON AN INDIVIDUAL TREE BASIS.
- 22. ALL PLANT MATERIALS AND GROUNDCOVERS TO BE INSPECTED AND APPROVED BY THE LANDSCAPE ARCHITECT BEFORE FINAL ACCEPTANCE OF WORK.
- 23. ALL PLANT MATERIAL IS TO BE GUARANTEED FOR ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE.
- 24. THE LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR ALL CLEAN-UP ASSOCIATED WITH ITS CONSTRUCTION PROCEDURE.

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March 7, 2013

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1	07-21-12	REVISED PER BUILDING AND ENGINEERING DEPARTMENT COMMENTS

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SITE NOTES

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OHIO UTILITIES PROTECTION SERVICE

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Richfield, Ohio 44286

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GENERAL EROSION AND SEDIMENT CONTROL NOTES:

THE CONTRACTOR SHALL PROVIDE DOCUMENTATION TO STARK SOIL & WATER FOR ALL FILL BROUGHT TO THE SITE OR SPILL TRUCKED OFF SITE STATING THAT THE OFFSITE AREAS MEET STORMWATER POLLUTION PREVENTION REQUIREMENTS.

EROSION CONTROL SHALL CONSIST OF TEMPORARY CONTROL MEASURES AS DETAILED ON THE PLANS OR ORDERED BY THE GOVERNING AGENCY DURING THE LIFE OF THE CONTRACT TO CONTROL SOIL EROSION AND SEDIMENTATION THROUGH USE OF EROSION CONTROL BEST MANAGEMENT PRACTICES (BMP'S).

TEMPORARY EROSION AND SEDIMENT CONTROL ITEMS, THE LOCATION AND SIZE OF WHICH ARE DETAILED ON THE PLANS, SHALL BE INSTALLED BY THE CONTRACTOR PRIOR TO COMMENCEMENT OF ANY CLEARING OR EARTHWORK OPERATIONS. CONDITIONS THAT DEVELOP DURING CONSTRUCTION THAT WERE NOT FORESEEN DURING DESIGN STAGE THAT REQUIRE ADDITIONAL OR MODIFIED TEMPORARY OR PERMANENT BMP'S SHALL BE APPROVED BY THE DESIGN ENGINEER AND REFLECTED ON THE REVISED SWP3.

SEDIMENT PONDS, SEDIMENT TRAPS, AND PERIMETER SEDIMENT CONTROLS, SHALL BE IMPLEMENTED AS THE FIRST STEP OF GRADING AND WITHIN 7 DAYS FROM THE START OF GRUBBING. THEY SHALL CONTINUE TO FUNCTION UNTIL DISTURBED AREAS ARE RE-ESTABLISHED WITH TEMPORARY VEGETATION. NO SEDIMENT CONTROLS SHALL BE PLACED IN A STREAM.

TRENCH DEWATERING OR GROUND WATER, WHICH CONTAINS SEDIMENT SHALL PASS THROUGH A SEDIMENT SETTLING POND OR EQUALLY EFFECTIVE SEDIMENT CONTROL DEVICE. ALTERNATIVES MAY INCLUDE DEWATERING INTO SUMP PIT, FILTER BAG OR EXISTING VEGETATED UPSLOPE AREA. SEDIMENT LADEN WATER SHALL NOT BE DISCHARGED TO STREAMS OR THE STORM SEWER SYSTEM.

THE SWP3, NOTES AND DETAILED DRAWINGS ARE INTENDED TO SERVE AS BASIC GUIDELINES. ALL EROSION CONTROL PRACTICES SHALL MEET THE STANDARDS AND SPECIFICATIONS OF THE CONR RAINWATER AND LAND DEVELOPMENT MANUAL.

ADDITIONAL EROSION CONTROL BMP'S MAY BE MANDATED BY THE GOVERNING AGENCY AT ANY TIME DURING THIS PROJECT AS UNFORESEEN SITUATIONS MAY ARISE THAT WARRANT FURTHER EROSION AND SEDIMENT CONTROL PRACTICES.

CONSTRUCT IN ACCORDANCE WITH THESE PLANS, THE OHIO DEPARTMENT OF TRANSPORTATION (ODOT) STANDARD CONSTRUCTION DRAWING MC-11, AND THE OHIO WATER MANAGEMENT AND SEDIMENT CONTROL MANUAL FOR URBANIZING AREAS. THE IMPLEMENTATION OF SOIL EROSION AND SEDIMENT CONTROL SHALL ALSO CONFORM TO THE REQUIREMENTS OF LOCAL EROSION AND SEDIMENT CONTROL REGULATIONS. IF CONFLICTS EXIST REGARDING THE SOIL AND SEDIMENT CONTROL PRACTICES, THE MORE RESTRICTIVE SHALL APPLY.

CONSTRUCTION MUST COMPLY WITH ALL LOCAL EROSION AND SEDIMENT CONTROL REGULATIONS. DISTURBED AREAS REMAINING DORMANT FOR OVER ONE YEAR OR AT FINAL GRADE, WILL HAVE PERMANENT EROSION CONTROLS APPLIED WITHIN SEVEN DAYS.

CLEARING AND GRUBBING

LIMITS OF CLEARING AND GRADING SHALL BE CLEARLY MARKED ON THE SITE WITH SIGNAGE, FLAGGING AND/OR CONSTRUCTION FENCING.

THE CONTRACTOR SHALL LIMIT THE SURFACE AREA OF ERODABLE EARTH MATERIAL EXPOSED BY EXCAVATION, BORROW, AND FILL OPERATIONS AND PROVIDE IMMEDIATE PERMANENT OR TEMPORARY CONTROL MEASURES TO PREVENT CONTAMINATION OF ADJACENT STREAMS OR OTHER WATER COURSES, LAKES, PONDS, WETLANDS OR OTHER AREAS OF WATER IMPOUNDMENT.

CONSTRUCTION ENTRANCE

A STONED CONSTRUCTION ENTRANCE SHALL BE INSTALLED FOR ALL INGRESS & EGRESS TO THE SITE. THE MINIMUM DIMENSIONS OF THE DRIVE SHALL BE 20 FT. WIDE AND 70 FT. LONG. THE STONE SHALL BE 6 INCHES DEEP WITH AN UNDERLAIN GEOTEXTILE FABRIC. THE DRIVE SHALL BE INSTALLED PRIOR TO ANY CLEARING AND GRUBBING. SEDIMENTS SHALL BE REMOVED FROM ROADWAYS DAILY.

STABILIZATION

PERMANENT AND TEMPORARY STABILIZATION ARE DEFINED IN PART VII OF THE OEPA AUTHORIZATION FOR CONSTRUCTION ACTIVITY UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM. OHIO EPA PERMIT NO. OH000003 EFFECTIVE DATE 4/21/08 - EXPIRATION DATE 4/20/13. DISTURBED AREAS MUST BE STABILIZED AS SPECIFIED IN THE FOLLOWING TABLES BELOW:

TABLE 1: PERMANENT STABILIZATION

AREA REQUIRING PERMANENT STABILIZATION	TIME FRAME TO APPLY EROSION CONTROL
ANY AREA THAT WILL LIE DORMANT FOR ONE YEAR OR MORE	WITHIN SEVEN DAYS OF THE MOST RECENT DISTURBANCE
ANY AREA WITHIN 50 FT. OF A STREAM AND AT FINAL GRADE	WITHIN TWO DAYS OF REACHING FINAL GRADE
ANY OTHER AREAS AT FINAL GRADE	WITHIN SEVEN DAYS OF REACHING FINAL GRADE WITHIN THAT AREA

DITCHES WITH SLOPES GREATER THAN 1.5% SHALL HAVE EROSION CONTROL BLANKETS OR MATTING INSTALLED AS PART OF STABILIZATION MEASURES.

EROSION CONTROL BLANKETS SHALL BE USED TO AID IN ESTABLISHING VEGETATION ON DISTURBED SLOPES STEEPER THAN 6%.

SIDE SLOPES OF ROADS AND DRIVES SHALL BE SEEDED AND BLANKETED IMMEDIATELY UPON COMPLETION.

SEEDING AND MULCHING: ALL SITE AREAS NOT OTHERWISE COVERED BY PROPOSED BUILDINGS, PAVEMENTS, OR LANDSCAPE PLANTINGS SHALL BE SEEDED AND MULCHED IN ACCORDANCE WITH THE SPECIFICATIONS. CONTRACTOR TO COORDINATE WITH THE LANDSCAPE PLAN.

A SITE IS NOT CONSIDERED TO BE STABLE UNTIL THE FOLLOWING ITEMS ARE COMPLETED:

- 1) A PERENNIAL, VEGETATIVE COVER (OR OTHER PERMANENT STABILIZATION PRACTICE) HAS GROWN TO A 75% DENSITY THROUGHOUT THE ENTIRE DISTURBED AREA.
- 2) ALL TEMPORARY EROSION AND SEDIMENT CONTROLS HAVE BEEN REMOVED AND DISPOSED OF PROPERLY.
- 3) ALL TRAPPED SEDIMENT HAS BEEN PERMANENTLY STABILIZED TO PREVENT FURTHER EROSION OR RE-SUSPENSION.
- 4) ALL CONSTRUCTION ACTIVITIES HAVE CEASED.

TEMPORARY SEEDING

SEEDING AREAS SHALL BE INSPECTED AND WHERE THE SEED HAS NOT PRODUCED 80% COVER SHALL BE RESEEDED AS NECESSARY BY THE CONTRACTOR. AREAS SHALL BE STABILIZED WITH MULCH WHEN CONDITIONS PROHIBIT SEEDING.

STRAW MULCHING SHALL BE APPLIED AT A RATE 2-3 STANDARD 45 LB. BALES PER 1000 SQ.FT. OF DISTURBED AREA OR 2 TONS PER ACRE. ALL HYDROSEEDINGS MUST BE STRAW MULCHED ACCORDING TO THE ABOVE SPECIFICATIONS UNLESS IT IS WATERED WEEKLY.

ALL DETENTION PONDS, RETENTION PONDS, WATER QUALITY STRUCTURES, SEDIMENT PONDS, SEDIMENT TRAPS, EARTHEN DIVERSIONS OR EMBANKMENTS SHALL BE SEEDED AND MULCHED WITHIN 7 DAYS OF COMPLETED CONSTRUCTION.

TABLE 2: TEMPORARY STABILIZATION

AREA REQUIRING TEMPORARY STABILIZATION	TIME FRAME TO APPLY EROSION CONTROL
ANY DISTURBED AREAS WITHIN 50 FT. OF A STREAM AND NOT AT FINAL GRADE	WITHIN TWO DAYS OF THE MOST RECENT DISTURBANCE IF THE AREA WILL REMAIN IDLE FOR MORE THAN 14 DAYS
FOR ALL CONSTRUCTION ACTIVITIES, ANY DISTURBED AREAS THAT WILL BE DORMANT FOR MORE THAN 21 DAYS BUT LESS THAN ONE YEAR, AND NOT WITHIN 50 FT. OF STREAM	WITHIN SEVEN DAYS OF THE MOST RECENT DISTURBANCE WITHIN THE AREA FOR RESIDENTIAL SUBDIVISIONS, DISTURBED AREAS MUST BE STABILIZED AT LEAST SEVEN DAYS PRIOR TO TRANSFER OF PERMIT COVERAGE FOR THE INDIVIDUAL LOT(S)
DISTURBED AREAS THAT WILL BE IDLE OVER WINTER	PRIOR TO ONSET OF WINTER WEATHER (NOV.1) STRAW MULCH 2 TO 3 BALES PER 1000 SQ.FT. AND OR 2 TONS PER ACRE.

WINTERIZATION - ANY DISTURBED AREA THAT IS NOT GOING TO BE WORKED FOR 21 DAYS OR MORE MUST BE SEEDED AND MULCHED BY NOVEMBER 1 OR MUST HAVE A DORMANT SEEDING OR MULCH COVER APPLIED BETWEEN NOVEMBER 1 AND MARCH 1.

WHEN SEASONAL CONDITIONS PROHIBIT THE APPLICATION OF TEMPORARY OR PERMANENT SEEDING, NON-VEGETATIVE SOIL STABILIZATION PRACTICES SUCH AS MULCHING AND MATTING SHALL BE USED.

MAINTENANCE

ALL TEMPORARY AND PERMANENT CONTROL PRACTICES SHALL BE MAINTAINED AND REPAIRED AS NEEDED TO ENSURE CONTINUED PERFORMANCE OF THEIR INTENDED FUNCTION. ALL SEDIMENT CONTROL PRACTICES MUST BE MAINTAINED IN A FUNCTIONAL CONDITION UNTIL ALL UP SLOPE AREAS THEY CONTROL ARE PERMANENTLY STABILIZED. THE CONTRACTOR SHALL COMPLY WITH THE MAINTENANCE SCHEDULE INCLUDED IN THE APPROVED PLANS FOR THE PROPOSED EROSION CONTROLS. A WRITTEN DOCUMENT CONTAINING THE SIGNATURES OF ALL CONTRACTORS AND SUB-CONTRACTORS INVOLVED IN THE IMPLEMENTATION OF THE BMP'S MUST BE MAINTAINED AS PROOF ACKNOWLEDGING THAT THEY REVIEWED AND UNDERSTAND THE CONDITIONS AND RESPONSIBILITIES OF THE SWP3.

INSPECTION

ALL STORMWATER CONTROLS ON THE SITE ARE INSPECTED AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND WITHIN 24 HOURS AFTER ANY STORM EVENT GREATER THAN ONE-HALF INCH OF RAIN PER 24 HOUR PERIOD. A WRITTEN RECORD DOCUMENTING THE INSPECTION AND THE RESULTS OF THESE INSPECTIONS MUST BE CREATED AND MAINTAINED ON-SITE WITH THE SWP3. DISTURBED AREAS AND AREAS USED FOR STORAGE OF MATERIALS THAT ARE EXPOSED TO PRECIPITATION SHALL BE INSPECTED FOR EVIDENCE OF OR THE POTENTIAL FOR POLLUTANTS ENTERING THE EROSION AND SEDIMENT CONTROL MEASURES IDENTIFIED IN THE SWP3 SHALL BE OBSERVED TO ENSURE THAT THOSE ARE OPERATING CORRECTLY. DISCHARGE LOCATIONS SHALL BE INSPECTED TO ASCERTAIN WHETHER EROSION AND SEDIMENT CONTROL MEASURES ARE EFFECTIVE IN PREVENTING SIGNIFICANT IMPACTS TO THE RECEIVING WATERS. LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE SHALL BE INSPECTED FOR EVIDENCE OF OFF-SITE VEHICLE TRACKING.

I. WHEN PRACTICES REQUIRE REPAIR OR MAINTENANCE.

IF THE INSPECTION REVEALS THAT A CONTROL PRACTICE IS IN NEED OF REPAIR OR MAINTENANCE, WITH EXCEPTION OF A SEDIMENT SETTLING POND, IT MUST BE REPAIRED OR MAINTAINED WITHIN THREE DAYS OF INSPECTION. SEDIMENT SETTLING PONDS MUST BE REPAIRED OR MAINTAINED WITHIN 10 DAYS OF THE INSPECTION.

II. WHEN PRACTICES FAIL TO PROVIDE THEIR INTENDED FUNCTION.

IF THE INSPECTION REVEALS THAT A CONTROL PRACTICE FAILS TO PERFORM ITS INTENDED FUNCTION AND THAT ANOTHER, MORE APPROPRIATE CONTROL PRACTICE IS REQUIRED, THE SWP3 MUST BE AMENDED AND THE NEW CONTROL PRACTICE MUST BE INSTALLED WITHIN 10 DAYS OF INSPECTION.

III. WHEN PRACTICES DEPICTED ON THE SWP3 ARE NOT INSTALLED.

IF THE INSPECTION REVEALS THAT A CONTROL PRACTICE HAS NOT BEEN INSTALLED IN ACCORDANCE WITH THE SWP3, THE SWP3 MUST BE AMENDED AND THE NEW CONTROL PRACTICE MUST BE INSTALLED WITHIN 10 DAYS OF THE INSPECTION. IF THE INSPECTION REVEALS THAT THE PLANNED CONTROL PRACTICE IS NOT NEEDED, THE RECORD MUST CONTAIN A STATEMENT OF EXPLANATION AS TO WHY THE CONTROL PRACTICE IS NOT NEEDED.

WASTE DISPOSAL

CONTAINERS (e.g., DUMPSTERS, DRUMS) SHALL BE AVAILABLE FOR DISPOSAL OF DEBRIS, TRASH, HAZARDOUS OR PETROLEUM WASTES. ALL CONTAINERS MUST BE COVERED AND LEAK-PROOF. ALL WASTE MATERIAL SHALL BE DISPOSED OF AT FACILITIES APPROVED FOR THE PERTINENT MATERIAL.

CLEAN HARD FILL

BRICKS, HARDENING CONCRETE, AND SOIL WASTE SHALL BE FREE FROM CONTAMINATION WHICH MAY LEACH CONSTITUENTS TO WATERS OF THE STATE.

CLEAN CONSTRUCTION WASTES THAT WILL BE DISPOSED INTO THE PROPERTY, SHALL BE SUBJECT TO ANY LOCAL PROHIBITIONS FROM THIS TYPE OF DISPOSAL.

CONSTRUCTION & DEMOLITION DEBRIS

ALL CONSTRUCTION & DEMOLITION DEBRIS (C&D) WASTE SHALL BE DISPOSED OF IN AN OHIO EPA APPROVED C&D LANDFILL AS REQUIRED BY OHIO REVISED CODE (ORC) 3714. CONSTRUCTION DEBRIS MAY BE DISPOSED OF ON-SITE, BUT DEMOLITION DEBRIS MUST BE DISPOSED IN AN OHIO EPA APPROVED LANDFILL. ALSO, MATERIALS WHICH CONTAIN ASBESTOS MUST COMPLY WITH AIR POLLUTION REGULATIONS (SEE OHIO ADMINISTRATIVE CODE (OAC) 3745-20).

CONSTRUCTION CHEMICAL COMPOUNDS

AREA SHALL BE DESIGNATED FOR MIXING OR STORAGE OF COMPOUNDS SUCH AS FERTILIZERS, LIME ASPHALT, OR CONCRETE. THESE DESIGNATED AREAS SHALL BE LOCATED AWAY FROM WATERCOURSES, DRAINAGE DITCHES, FIELD DRAINS, OR OTHER STORMWATER DRAINAGE AREA.

EQUIPMENT FUELING & MAINTENANCE

EQUIPMENT FUELING & MAINTENANCE SHALL BE IN DESIGNATED AREAS ONLY.

A SPILL PREVENTION CONTROL AND COUNTERMEASURES

A SPILL PREVENTION CONTROL AND COUNTERMEASURES (SPCC) PLAN MUST BE DEVELOPED FOR SITES WITH ONE ABOVE-GROUND STORAGE OF 660 GALLONS OR MORE, TOTAL ABOVE-GROUND STORAGE OF 1,330 GALLONS, OR BELOW-GROUND STORAGE OF 4,200 GALLONS OF FUEL.

CONCRETE WASH WATER

ALL DESIGNATED CONCRETE WASHOUT AREAS SHALL BE LOCATED AWAY FROM WATERCOURSES, DRAINAGE DITCHES, FIELD DRAINS, OR OTHER STORMWATER DRAINAGE AREAS.

CONTAMINATED SOILS

ALL CONTAMINATED SOIL MUST BE TREATED AND/OR DISPOSED IN OHIO EPA APPROVED SOLID WASTE MANAGEMENT FACILITIES OR HAZARDOUS WASTE TREATMENT, STORAGE OR DISPOSAL FACILITIES (TSDFs).

SPILL REPORTING REQUIREMENTS

SPILL ON PAVEMENT SHALL BE ABSORBED WITH SAWDUST, KITTY LITTER, OR OTHER ABSORBANT MATERIAL AND MIXED WITH THE TRASH AT A LICENSED LANDFILL. HAZARDOUS OR INDUSTRIAL WASTES SUCH AS MOST SOLVENTS, GASOLINE, OIL-BASED PAINTS AND CEMENT CURING COMPOUNDS REQUIRE SPECIAL HANDLING. SPILLS SHALL BE REPORTED TO OHIO EPA (1-800-282-9378) WITHIN ONE HOUR OF DISCOVERY OF THE RELEASE. THE CONTRACTOR SHALL HAVE ON-SITE A 20 GALLON OVER PACK SPILL KIT BY EXCEL EQUIPMENT OR APPROVED EQUAL AT THE SITE NEXT TO THE DESIGNATED MAINTENANCE REPAIR AND FUELING AREA THROUGHOUT CONSTRUCTION. A RESPONSE GUIDELINE BOOK SHALL BE SUPPLIED BY THE MANUFACTURER. THIS BOOK SHALL BE POSTED AT THE SITE. THIS INFORMATION SHALL BE POSTED AT THE SITE. THE CONTRACTOR SHALL CONTACT THE OHIO EPA AT 800-282-9378, THE LOCAL FIRE DEPARTMENT, AND THE LOCAL EMERGENCY PLANNING COMMITTEE (440-951-5252) IN THE EVENT OF A PETROLEUM SPILL (>25 GALLONS) OR THE PRESENCE OF SHEEN WITHIN 30 MINUTES OF A SPILL 25 GALLONS OR MORE. THIS INFORMATION MUST BE POSTED AT THE SITE. THE CONTRACTOR SHALL SUBMIT A SPILL PREVENTION CONTROL AND COUNTER MEASURES (SPCC) PLAN TO CUYAHOGA SOIL AND WATER CONSERVATION DISTRICT FOR APPROVAL. CONSTRUCTION SHALL NOT START UNTIL AFTER PLANS ARE APPROVED BY CUYAHOGA SOIL & WATER CONSERVATION DISTRICT.

OPEN BURNING

OPEN BURNING IS NOT PERMITTED.

DUST CONTROLS/SUPPRESSANTS

CONTRACTOR SHALL CONTROL DUST AND WIND BORN PARTICLES ON THE SITE FROM START OF CONSTRUCTION TILL STABILIZATION OF THE SITE. CONTROLS SHALL BE USED 24 HOURS A DAY AS NECESSARY TO ALLEVIATE ANY NUISANCE.

DUST CONTROLS MUST BE USED IN ACCORDANCE WITH THE MANUFACTURERS SPECIFICATIONS AND NOT BE APPLIED IN A MANNER, WHICH WOULD RESULT IN A DISCHARGE TO THE WATERS OF THE STATE. ISOLATION DISTANCES FROM BRIDGES, CATCH BASINS, AND OTHER DRAINAGE WAYS MUST BE OBSERVED. APPLICATION (EXCLUDING WATER) MAY NOT OCCUR WHEN PRECIPITATION IS IMMINENT AS NOTED IN THE SHORT TERM FORECAST. USED OIL MAY NOT BE USED AS A DUST SUPPRESSANT.

STREAM CROSSINGS

STREAM CROSSINGS SHALL BE CONSTRUCTED ENTIRELY OF STONE, ROCK, OR CLEAN RECYCLED CONCRETE. SOIL OR OTHER MATERIAL SHALL NOT BE USED. CONSTRUCTION SHALL NOT BE ON EITHER SIDE OF THE STREAM SHALL BE CONSTRUCTED TO PREVENT LOCALIZED SEDIMENTATION. ALL DISTURBED AREAS OF THE BANK WITHIN 50 FT. OF THE STREAM SHALL BE STABILIZED WITH SEED AND MULCH WITHIN 2 DAYS OF THE DISTURBANCE.

PERMITS

THE CONDITIONS OF THE NPDES CONSTRUCTION STORM WATER GENERAL PERMIT SHALL BE MET DURING ALL STAGES OF CONSTRUCTION.

SITE CONDITIONS

EXISTING: COMMERCIAL

PROPOSED: COMMERCIAL

TOTAL SITE AREA DISTURBED: 1.46 Ac.

PRE-DEVELOPMENT: PEROUVIOUS = 1.13 Ac.
IMPERVIOUS = 0.33 Ac.

POST-DEVELOPMENT: PEROUVIOUS = 0.81 Ac.
IMPERVIOUS = 0.65 Ac.

PERMANENT STABILIZATION OF CONVEYANCE CHANNELS

OPERATORS SHALL UNDERTAKE SPECIAL MEASURES TO STABILIZE CHANNELS AND OUTFALLS AND PREVENT EROSION FLOWS. MEASURES MAY INCLUDE SEEDING, DORMANT SEEDING (AS DEFINED IN THE LATEST EDITION OF CONR RAINWATER AND LAND DEVELOPMENT MANUAL), MULCHING, EROSION CONTROL MATTING, SODDING, RIPRAP, NATURAL CHANNEL DESIGN WITH BIO ENGINEERING TECHNIQUES OR ROCK CHECK DAMS.

TIMING

SEDIMENT CONTROL STRUCTURES SHALL BE FUNCTIONAL THROUGHOUT THE COURSE OF EARTH DISTURBING ACTIVITY. SEDIMENT BASINS AND PERIMETER SEDIMENT BARRIERS SHALL BE IMPLEMENTED PRIOR TO GRADING AND WITHIN SEVEN DAYS FROM THE START OF GRUBBING. THEY SHALL CONTINUE TO FUNCTION UNTIL THE SLOPE DEVELOPMENT AREA IS PERMANENTLY RESTABILIZED. AS CONSTRUCTION PROGRESSES AND THE TOPOGRAPHY IS ALTERED, APPROPRIATE CONTROLS MUST BE CONSTRUCTED TO ADDRESS THE CHANGING DRAINAGE PATTERNS.

SILT FENCE & DIVERSIONS

SHEET FLOW RUNOFF FROM DENUDEED AREAS SHALL BE INTERCEPTED BY SILT FENCE OR DIVERSIONS TO PROTECT ADJACENT PROPERTIES AND WATER RESOURCES FROM SEDIMENT TRANSPORTED VIA SHEET FLOW. WHERE INTENDED TO PROVIDE SEDIMENT CONTROL, SILT FENCES SHALL BE LAGED ON A LEVEL CONTAINING THE EPA PERMIT NO. OH000002 DOES NOT PRECLUDE THE USE OF OTHER SEDIMENT BARRIERS DESIGNED TO CONTROL SHEET FLOW RUNOFF. SILT FENCE IS NOT PERMITTED TO BE USED FOR CONTROLLING CONCENTRATED SURFACE WATER FLOW (ONLY SHEET FLOW).

STORMWATER DIVERSION PRACTICES SHALL BE USED TO KEEP RUNOFF AWAY FROM DISTURBED AREAS AND STEEP SLOPES WHERE PRACTICAL. SUCH DEVICES, WHICH INCLUDE SWALES, DIKES OR BERMS, MAY RECEIVE FROM AREAS UP TO 10 ACRES.

IF SMALL RILLS OR GULLIES DEVELOP, TEMPORARY DIVERSIONS SHALL BE INSTALLED UNTIL SATISFACTORY SEEDING IS ESTABLISHED.

INLET PROTECTION

OTHER EROSION AND SEDIMENT CONTROL PRACTICES SHALL MINIMIZE SEDIMENT LADEN WATER ENTERING ACTIVE STORM DRAIN SYSTEMS, UNLESS THE STORM DRAIN SYSTEM DRAINS TO A SEDIMENT POND. INLET PROTECTION IS MANDATORY WHERE SEDIMENT SETTLING PONDS WILL NOT BE IMPLEMENTED.

NON-SEDIMENT POLLUTANTS CONTROLS

NO SOLID (OTHER THAN SEDIMENT) OR LIQUID WASTE, INCLUDING BUILDING MATERIALS, SHALL BE DISCHARGED IN STORMWATER RUNOFF. ALL NECESSARY BMP'S MUST BE IMPLEMENTED TO PREVENT THE DISCHARGE OF NON-SEDIMENT POLLUTANTS TO THE DRAINAGE SYSTEM OF THE SITE OR SURFACE WATERS OF THE STATE. UNDER NO CIRCUMSTANCE SHALL CONCRETE TRUCKS WASH OUT DIRECTLY INTO A DRAINAGE CHANNEL, STORM SEWER OR SURFACE WATERS OF THE STATE. NO EXPOSURE OF STORMWATER TO WASTE MATERIALS IS RECOMMENDED.

OFF-SITE TRAFFIC

OFF-SITE VEHICLE TRACKING OF SEDIMENTS AND DUST GENERATION SHALL BE MINIMIZED.

ADJACENT ROADS SHALL BE KEPT FREE OF DIRT AND DEBRIS AT ALL TIMES. TRACKING OR SPILLAGE OF MUD, DIRT, OR DEBRIS UPON STREETS IS PROHIBITED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY SUCH OCCURRENCE, BE IT ON STREETS OR ADJACENT PROPERTY(S), AND SHALL CLEAN UP DEBRIS IMMEDIATELY AND AS DIRECTED BY THE OWNER OR MUNICIPAL ENGINEER AT THE END OF EACH WORK DAY. IF THE CONTRACTOR FAILS TO KEEP THE WORK AREA CLEAN OF DEBRIS, OR FAILS TO CLEAN THE STREETS OF MUD AND DIRT FROM THIS CONSTRUCTION SITE, THE OWNER OR MUNICIPAL AUTHORITY MAY TAKE ACTION AND ASSESS THE CONTRACTOR FOR ANY COSTS THAT ARE INCURRED.

TRENCH AND GROUND WATER CONTROL

THERE SHALL BE NO TURBID DISCHARGES TO SURFACE WATERS OF THE STATE RESULTING FROM DEWATERING ACTIVITIES. IF TRENCH OR GROUND WATERS CONTAIN SEDIMENT, IT MUST PASS THROUGH A SEDIMENT SETTLING POND OR OTHER EQUALLY EFFECTIVE SEDIMENT CONTROL DEVICE, PRIOR TO BEING DISCHARGED FROM THE CONSTRUCTION SITE. ALTERNATIVELY, SEDIMENT MAY BE REMOVED BY SETTLING IN PLACE OR DEWATERING INTO A SUMP PIT, FILTER BAG OR COMPARABLE DEVICE. GROUND WATER DEWATERING WHICH DOES NOT CONTAIN SEDIMENT OR OTHER POLLUTANTS ARE NOT REQUIRED TO BE TREATED PRIOR TO DISCHARGE. HOWEVER, CARE MUST BE TAKEN WHEN DISCHARGING GROUND WATER TO ENSURE THAT IT DOES NOT BECOME POLLUTANT-LADEN BY TRAVERSING OVER DISTURBED SOILS OR OTHER POLLUTANT SOURCES.

SEQUENCE OF MAJOR CONSTRUCTION OPERATIONS

1. AT THE START OF CONSTRUCTION ACTIVITIES, CONTRACTOR TO INSTALL TEMPORARY CONSTRUCTION ENTRANCE.
2. CONTRACTOR TO INSTALL TREE PROTECTION FENCE.
3. CONTRACTOR TO INSTALL SILT FENCE AROUND PERIMETER OF PROPOSED DISTURBED AREAS AND MAINTAIN UNTIL FINAL STABILIZATION OF UPLAND AREAS.
4. CONTRACTOR TO CLEAR AND GRUB PROPOSED SITE.
5. CONTRACTOR TO ROUGH GRADE SITE.
6. CONTRACTOR TO INSTALL TEMPORARY STABILIZATION PER TABLE 2 ON THIS SHEET.
7. CONTRACTOR TO INSTALL TEMPORARY SHALLOW LINED EXCAVATION FOR CONCRETE TRUCK WASHOUT AND MAINTAIN UNTIL NO LONGER REQUIRED.
8. CONTRACTOR TO BEGIN CONSTRUCTION.
9. CONTRACTOR TO INSTALL UTILITIES.
10. CONTRACTOR TO INSTALL INLET PROTECTION AT ALL INLETS AND MAINTAIN THEM UNTIL UPLAND AREAS ARE STABILIZED.
11. CONTRACTOR TO FINAL GRADE SITE.
12. CONTRACTOR TO BEGIN PAVING OPERATIONS.
13. CONTRACTOR TO INSTALL PERMANENT SEEDING IN ALL NONPAVED AREAS.
14. CONTRACTOR TO REMOVE EROSION CONTROL DEVICES AFTER UPLAND AREAS HAVE BEEN STABILIZED.
15. CONTRACTOR TO INSPECT STORM SEWER AND REMOVE ALL DEBRIS FROM THE SYSTEM CAUSED BY CONSTRUCTION.

POST CONSTRUCTION MAINTENANCE PROCEDURE AT OWNER'S EXPENSE

1. THE OWNER SHALL ANNUALLY INSPECT INLETS AND OUTLET DEVICES TO ENSURE DEVICES ARE FREE OF DEBRIS AND OPERATIONAL. CLEAN AND REPAIR AS NEEDED.
2. INSPECTION REPORTS SHALL BE SUBMITTED TO THE LOCAL GOVERNING AUTHORITY.

POST CONSTRUCTION STORMWATER MANAGEMENT REQUIREMENTS

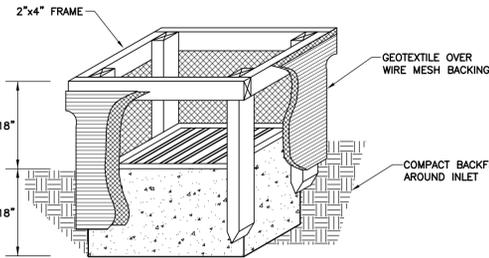
SO THAT THE RECEIVING STREAMS PHYSICAL AND BIOLOGICAL CHARACTERISTICS ARE PROTECTED AND STREAM FUNCTIONS ARE MAINTAINED, POST-CONSTRUCTION STORM WATER PRACTICES SHALL PROVIDE PERPETUAL MANAGEMENT OF RUNOFF QUALITY AND QUANTITY. THE SITE DISTURBANCE IS TO BE LIMITED TO AS LITTLE AS POSSIBLE PER OWNER REQUEST. BECAUSE OF THE LIMITED SITE DISTURBANCE, NO STRUCTURAL BMP'S ARE REQUIRED.

THE NON-STRUCTURAL BMP'S WILL BE NO MOW GRASS FILTER AREAS. THE PROPOSED CONDITIONS HAVE GRASS AREAS TO HELP WITH FILTERING STORM WATER BEFORE ENTERING THE STORM SEWER SYSTEM. THESE GRASS AREAS WILL BE MOWED NO MORE THAN TWICE PER YEAR.

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 SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES OR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.

NAME: WARREN PRICE TITLE: DIRECTOR OF PUBLIC SERVICES
SIGNATURE: _____ DATE: _____



1. INLET PROTECTION SHALL BE CONSTRUCTED EITHER BEFORE UPSLOPE LAND DISTURBANCE OR BEFORE THE STORM DRAIN BECOMES OPERATIONAL.
2. THE EARTH AROUND THE INLET SHALL BE EXCAVATED COMPLETELY TO A DEPTH OF AT LEAST 18".
3. THE WOODEN FRAME & POSTS SHALL BE CONSTRUCTED OF 2 BY 4 IN. CONSTRUCTION GRADE LUMBER. POSTS SHALL BE DRIVEN FT. INTO THE GROUND AT EACH CORNER OF THE INLET. SECURE FRAME TO POSTS USING THE OVERLAP JOINT METHOD AS SHOWN. ONE SIDE OF THE INLET SO THE ENDS OF THE CLOTH ARE NOT FASTENED TO THE SAME POST.
4. WIRE MESH SHALL BE OF SUFFICIENT STRENGTH TO SUPPORT FABRIC WITH WATER FULLY IMPOUNDED AGAINST IT. IT SHALL BE STRETCHED TIGHTLY AROUND THE FRAME AND FASTENED SECURELY TO THE FRAME.
5. GEOTEXTILE SHALL HAVE AN EQUIVALENT OPENING SIZE OF 20-40 Sieve AND BE RESILIENT TO SUNLIGHT. IT SHALL BE STRETCHED TIGHTLY AROUND THE FRAME AND FASTENED SECURELY. IT SHALL EXTEND FROM THE TOP OF THE FRAME TO 18 IN. BELOW THE INLET NOTCH ELEVATION. THE GEOTEXTILE SHALL OVERLAP ACROSS ONE SIDE OF THE INLET SO THE ENDS OF THE CLOTH ARE NOT FASTENED TO THE SAME POST.
6. BACKFILL SHALL BE PLACED AROUND THE INLET IN COMPACTED 6 IN. LAYERS UNTIL THE EARTH IS EVEN WITH NOTCH ELEVATION ON ENDS AND TOP ELEVATION ON SIDES 6 IN. BELOW ADJACENT ROADS IF PONDED WATER WOULD POSE A SAFETY HAZARD TO TRAFFIC.
7. A COMPACTED EARTH DIKE OR A CHECK DAM SHALL BE CONSTRUCTED IN THE DITCH LINE BELOW THE INLET IF THE INLET IS NOT IN A DEPRESSION AND IF RUNOFF BYPASSING THE INLET WILL NOT FLOW TO A SETTLING POND. THE TOP OF THE EARTH DIKES SHALL BE AT LEAST 6 IN. HIGHER THAN THE TOP OF THE FRAME.

INLET PROTECTION (IP)

TEMPORARY SEEDING NEEDS TO BE ESTABLISHED WITHIN SEVEN (7) DAYS ON ALL BARE AREAS THAT ARE NOT GOING TO BE DISTURBED FOR 21 OR MORE DAYS. ALSO, TEMPORARY SEEDING NEEDS TO BE ESTABLISHED WITHIN 2 DAYS ON AREAS WITHIN FIFTY FEET OF A STREAM.

SEEDING DATES	TEMPORARY SEEDING SPECIES SELECTION	SPECIES	LB./1,000FT.	PER AC.
MARCH 1 - AUGUST 15		OATS	3	4 BUSHEL
		TALL FESCUE	1	40LBS.
		ANNUAL RYEGRASS	1	40LBS.
		PERENNIAL RYEGRASS	1	40LBS.
		TALL FESCUE	1	40LBS.
AUGUST 16 - NOVEMBER 1		RYE	3	2 BUSHEL
		TALL FESCUE	1	40LBS.
		ANNUAL RYEGRASS	1	40LBS.
		WHEAT	3	2 BUSHEL
		TALL FESCUE	1	40LBS.
NOVEMBER 1 - SPRING SEEDING		ANNUAL RYEGRASS	1	40LBS.
		PERENNIAL RYEGRASS	1	40LBS.
		TALL FESCUE	1	40LBS.
		ANNUAL RYEGRASS	1	40LBS.
		USE MULCH ONLY, SODDING PRACTICES OR DORMANT SEEDING.		

NOTE: OTHER APPROVED SEED SPECIES MAY BE SUBSTITUTED

SEEDING:

APPLY AS EARLY IN THE DAY AS POSSIBLE, BUT NO LATER THAN AT THE END OF THE DAY TO BENEFIT FROM MOISTURE STILL IN THE SURFACE LAYER.

APPLY UNIFORMLY OVER THE AREA TO BE PROTECTED WITH A CYCLONE SEEDER, DRILL, HYDROSEEDER OR CULTIPACKER SEEDER. IMMEDIATELY PROTECT WITH STRAW MULCH.

APPLY ON AREAS THAT ARE NOT TO BE GRADED OR REWORKED FOR 21 OR MORE DAYS.

LIME AND FERTILIZE BASED ON SOIL TESTS FOR NUTRIENT REQUIREMENTS FOR ADEQUATE GROWTH.

MULCHING:

APPLY STRAW AT THE RATE OF 90LBS. PER 1,000 SQUARE FEET (2-3 BALES) OR 2 TONS PER ACRE OR OTHER MULCHES ACCORDING TO MANUFACTURERS SPECIFICATIONS.

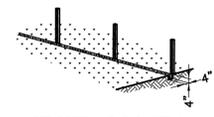
SILT FENCE

CONSTRUCTION SPECIFICATIONS

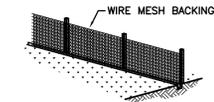
- SILT FENCE SHALL BE CONSTRUCTED BEFORE UPSLOPE DISTURBANCE BEGINS OR WITHIN 7 DAYS OF FIRST GRUBBING.
- THE HEIGHT OF THE SILT FENCE SHALL NOT EXCEED 36-INCHES, OR BE LESS THAN 16-INCHES. STORAGE HEIGHT SHALL NEVER EXCEED 18-INCHES, OR HALF OF THE TOTAL HEIGHT ABOVE THE ORIGINAL GROUND.
- THE FENCE LINE SHALL FOLLOW LEVEL CONTOURS AS CLOSELY AS POSSIBLE.
- IF POSSIBLE, THE FILTER FABRIC SHALL BE CUT FROM A CONTINUOUS ROLL TO AVOID THE USE OF JOINTS. WHEN JOINTS ARE NECESSARY, FILTER CLOTH SHALL BE SECURELY WRAPPED AROUND A POST.
- POST SPACING SHALL NOT EXCEED 6 FEET. WHERE POSSIBLE, VEGETATION SHALL BE PRESERVED FOR ± 5 FEET UPSLOPE FROM THE SILT FENCE. IF VEGETATION IS REMOVED, IT SHALL BE RESTORED WITHIN 7 DAYS FROM INSTALLATION OF THE SILT FENCE.
- SEAMS BETWEEN SECTIONS OF SILT FENCE SHALL BE OVERLAPPING WITH THE STAKES OF EACH SECTION WRAPPED TOGETHER BEFORE DRIVING INTO THE GROUND.
- TURN THE ENDS OF THE FENCE UPHILL APPROXIMATELY 2 FEET. A TRENCH SHALL BE EXCAVATED APPROXIMATELY 4-INCHES WIDE AND 6-INCHES DEEP ALONG THE LINE OF THE POSTS AND UPSLOPE FROM THE BARRIER.
- FILTER FABRIC SHALL NOT BE STAPLED TO EXISTING TREES.
- THE TRENCH SHALL BACKFILLED AND THE SOIL COMPACTED OVER THE TOE OF THE FILTER FABRIC.
- SILT FENCES PLACED AT THE TOE OF A SLOPE SHALL BE SET AT LEAST 10 FEET FROM THE TOE IN ORDER TO INCREASE PONDING VOLUME. SILT FENCES ARE TO BE USED ONLY IN SITUATIONS IN WHICH SHEET FLOW IS EXPECTED, BUT NOT IN DRAINAGE DITCHES, CHANNELS, OR RAVINES IN WHICH CHANNELIZED FLOW OCCURS. SILT FENCES SHALL BE REMOVED WHEN THEY HAVE EXCEEDED THEIR USEFUL PURPOSE, BUT NOT BEFORE THE UPSLOPE AREA HAS BEEN PERMANENTLY STABILIZED AND SEDIMENT STORED BEHIND THE SILT FENCE HAS BEEN REMOVED.

MAINTENANCE AND INSPECTION

- SILT FENCE SHALL BE INSPECTED DAILY, WEEKLY AND AFTER EACH SIGNIFICANT STORM (1/2-INCH IN 24 HOURS). ANY REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY. SEDIMENT MAY BE REMOVED AFTER EACH STORM, BUT MUST BE REMOVED WHEN IT REACHES 1/3rd HEIGHT OF THE FENCE (9-INCHES MAXIMUM). THE FABRIC SHALL BE REPLACED WHEN IT IS TORN, HAS HOLES, DECOMPOSES OR IS NO LONGER DETAINING WATER FOR SEDIMENTATION AND THE BARRIER IS STILL REQUIRED. THE POSTS SHALL BE REPLACED IF THEY ARE BENT OR BROKEN. FENCES THAT ARE KNOCKED DOWN OR HAVE JOINTS THAT ARE SEPARATED OR ARE BEING UNDERCUT BY FLOWS SHALL BE REPLACED IMMEDIATELY.
- SEDIMENT REMOVED SHALL BE DISPOSED OF IN AN AREA PREVIOUSLY APPROVED BY THE LOCAL AUTHORITIES AND OWNER. AT NO TIME SHALL SEDIMENT BE PLACED IN AN AREA THAT WILL CONTRIBUTE SEDIMENT OFF-SITE AND IS NOT PERMANENTLY STABLE.



1. SET POSTS AND EXCAVATE A 4" TRENCH UPSLOPE ALONG THE LINE OF POSTS.



2. ATTACH THE FILTER FABRIC TO THE POSTS AND EXTEND IT IN THE TRENCH



3. BACKFILL AND COMPACT THE EXCAVATED SOIL.

SILT FENCE (SF)

THE PATENTED DANDY BAG® IS DESIGNED FOR USE WITH FLAT GRATES (INCLUDING ROUND) AND MOUNTABLE CURBS TO DETAIN SEDIMENT-LADEN STORM WATER. THE SUSPENDED SOLIDS ARE ALLOWED TO SETTLE OUT OF THE SLOWED FLOW PRIOR TO ENTERING THE DANDY BAG®.

INSTALLATION

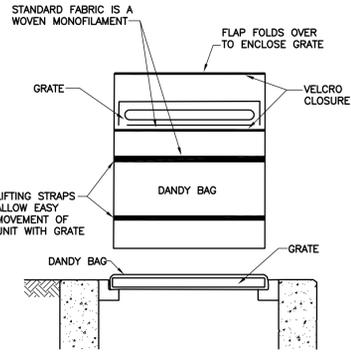
- STAND THE GRATE ON END
- PLACE THE DANDY BAG® OVER THE GRATE
- ROLL THE GRATE OVER SO THAT THE OPEN END IS UP
- PULL UP THE SLACK
- TUCK THE FLAP IN
- PRESS THE VELCRO STRIPS TOGETHER
- BE SURE THAT THE END OF THE GRATE IS COMPLETELY COVERED BY THE FLAP OR THE DANDY BAG® WILL NOT WORK PROPERLY
- HOLDING THE HANDLES, CAREFULLY PLACE THE DANDY BAG® WITH THE GRATE INSERTED INTO THE CATCH BASIN FRAME

MAINTENANCE

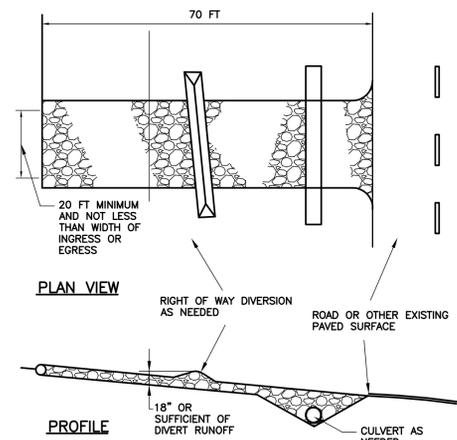
TO INSURE PROPER OPERATION REMOVE SILT, SEDIMENT, AND DEBRIS FROM THE SURFACE AND THE VICINITY OF THE UNIT WITH A SQUARE POINT SHOVEL OR STIFF BRISTLE BROOM AWAY FROM ENVIRONMENTALLY SENSITIVE AREAS AND WATERWAYS IN MANNER SATISFACTORY TO THE ENGINEER/INSPECTOR. REMOVE FINE MATERIAL FROM INSIDE DANDY BAG® AS NEEDED. DISPOSE OF DANDY BAG® NO LONGER IN USE AT AN APPROPRIATE RECYCLING OR SOLID WASTE FACILITY.

INLET INSPECTION

TO INSPECT INLET, REMOVE DANDY BAG® WITH GRATE INSIDE, INSPECT CATCH BASIN AND REPLACE DANDY BAG® BACK INTO GRATE FRAME.



INLET PROTECTION IN EXISTING PAVEMENT (IP)

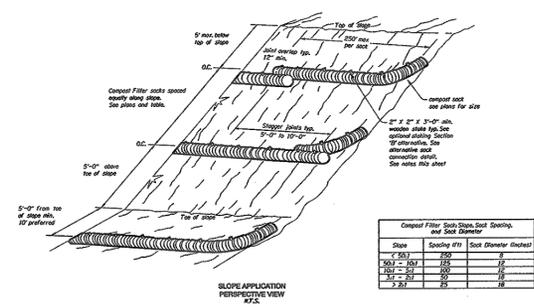


CONSTRUCTION ENTRANCE NOTES:

- STONE SIZE – ODOT #2 (1.5–2.5 INCH) STONE SHALL BE USED, OR RECYCLED CONCRETE EQUIVALENT
- LENGTH – THE CONSTRUCTION ENTRANCE SHALL BE AS LONG AS REQUIRED TO STABILIZE HIGH TRAFFIC AREAS BUT NOT LESS THAN 70 FT. (EXCEPTION: APPLY 30 FT. MINIMUM TO SINGLE RESIDENCE LOTS).
- THICKNESS – THE STONE LAYER SHALL BE AT LEAST 6 INCHES THICK FOR LIGHT DUTY ENTRANCES OR AT LEAST 10 INCHES FOR HEAVY DUTY USE.
- WIDTH – THE ENTRANCE SHALL BE AT LEAST 14 FEET WIDE, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS.
- GEOTEXTILE – A GEOTEXTILE SHALL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING STONE. IT SHALL BE COMPOSED OF STRONG ROT-PROOF POLYMERIC FIBERS AND MEET THE FOLLOWING SPECIFICATIONS:

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<0.6MM
PERMITTIVITY	1X10-3 CM/SEC
- TIMING – THE CONSTRUCTION ENTRANCE SHALL BE INSTALLED AS SOON AS IS PRACTICABLE BEFORE MAJOR GRADING ACTIVITIES.
- CULVERT – A PIPE OR CULVERT SHALL BE CONSTRUCTED UNDER THE ENTRANCE IF NEEDED TO PREVENT SURFACE WATER FROM FLOWING ACROSS THE ENTRANCE TO PREVENT RUNOFF FROM BEING DIRECTED OUT ONTO PAVED SURFACES.
- WATER BAR – A WATER BAR SHALL BE CONSTRUCTED AS PART OF THE CONSTRUCTION ENTRANCE IF NEEDED TO PREVENT SURFACE RUNOFF FROM FLOWING THE LENGTH OF THE CONSTRUCTION ENTRANCE AND ONTO PAVED SURFACES.
- MAINTENANCE – TOP DRESSING OF ADDITIONAL STONE SHALL BE APPLIED AS CONDITIONS DEMAND. MUD SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC ROADS, OR ANY SURFACE WHERE RUNOFF IS NOT CHECKED BY SEDIMENT CONTROLS, SHALL BE REMOVED IMMEDIATELY. REMOVAL SHALL BE ACCOMPLISHED BY SCRAPING OR SWEEPING.
- CONSTRUCTION ENTRANCES SHALL NOT BE RELIED UPON TO REMOVE MUD FROM VEHICLES AND PREVENT OFF-SITE TRACKING. VEHICLES THAT ENTER AND LEAVE THE CONSTRUCTION SITE SHALL BE RESTRICTED FROM MUDDY AREAS.
- REMOVAL – THE ENTRANCE SHALL REMAIN IN PLACE UNTIL THE DISTURBED AREA IS STABILIZED OR REPLACED WITH A PERMANENT ROADWAY OR ENTRANCE.

TEMPORARY CONSTRUCTION ENTRANCE (CE)



Installation:

Trenching is not required. Once the filter sock is filled and put in place, it should be anchored to the slope. The preferred anchoring method is to drive stakes through the center of the sock at regular intervals; alternatively, stakes can be placed on the downstream side of the sock. The ends of the filter sock should be directed upslope, to prevent storm water from running around the end of the sock. The filter sock may be vegetated by incorporating seed into the compost prior to placement in the filter sock. Since compost filter socks do not have to be trenched into the ground, they can be installed on frozen ground or even cement and should be anchored or weighed down to prevent movement with sand bags.

Maintenance

Compost filter socks should be inspected regularly, as well as after each rainfall event, to ensure that they are intact and the area behind the sock is not filled with sediment. If there is excessive ponding behind the filter sock or accumulated sediments reach the top of the sock, an additional sock should be added on top or in front of the existing filter sock in these areas, without disturbing the soil or accumulated sediment. If the filter sock was overtopped during a storm event, the operator should consider installing an additional filter sock on top of the original, placing an additional filter sock further up the slope, or using an additional BMP, such as a compost blanket in conjunction with the sock(s).

COMPOST FILTER SOCK SEDIMENT BARRIER DETAIL

SWPP NOTES & DETAILS

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 1400 Sherrick Road S.E. - Canton, Ohio 44707

March 7, 2013

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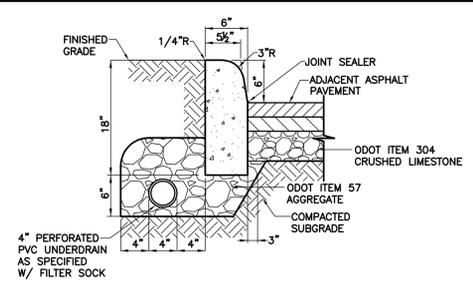
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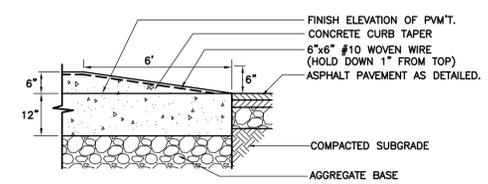
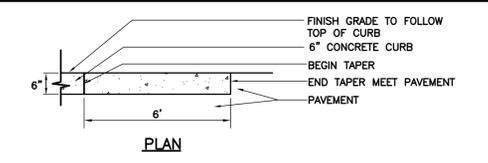
SWPP NOTES & DETAILS

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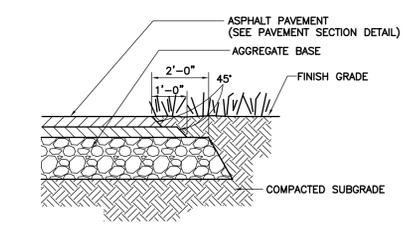
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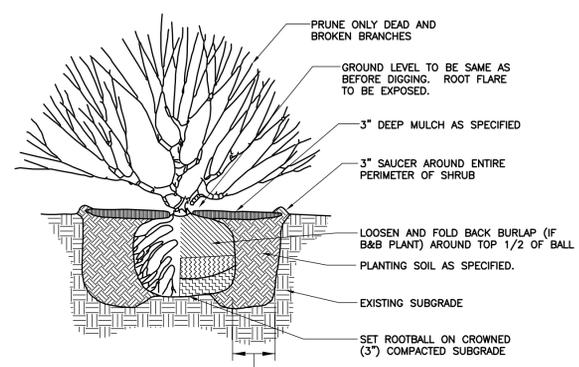
CONCRETE CURB
(ODOT TYPE 6 WITH UNDERDRAIN)



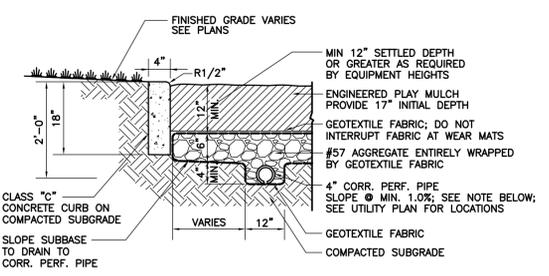
CONCRETE CURB TAPER



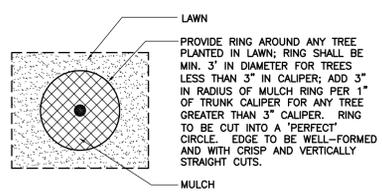
ASPHALT CONCRETE EDGE



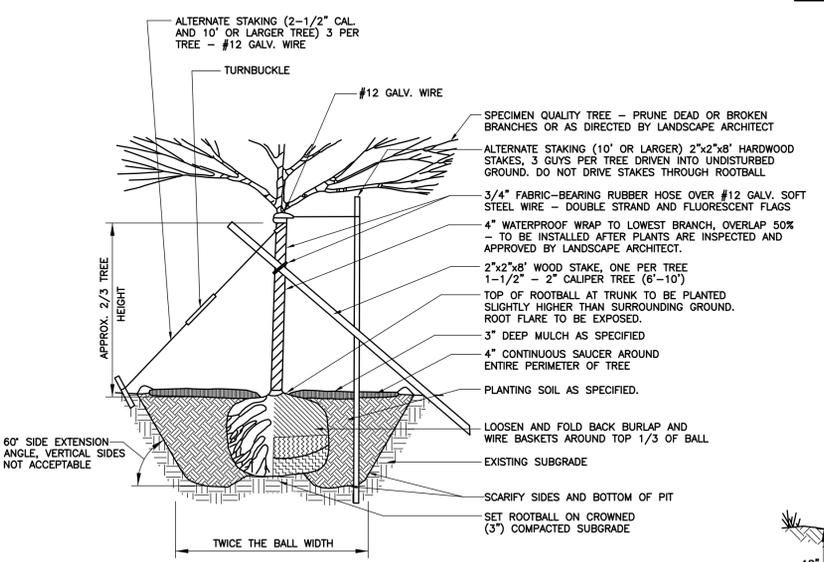
ALT G5 SHRUB PLANTING DETAIL



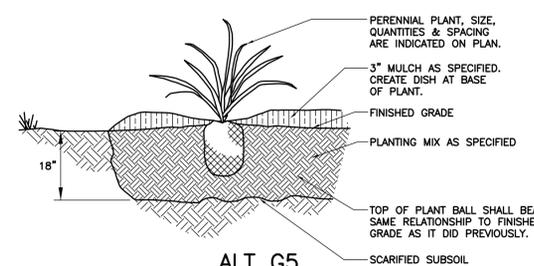
ALT G1 SOFT SURFACE AREA CURB AND UNDERDRAIN



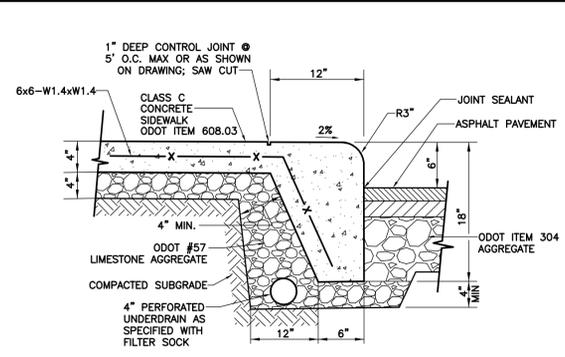
ALT G5 MULCH RING



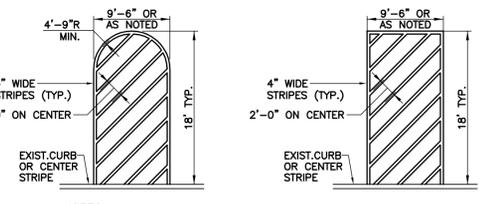
ALT G5 TREE PLANTING DETAIL



ALT G5 PERENNIAL PLANTING DETAIL

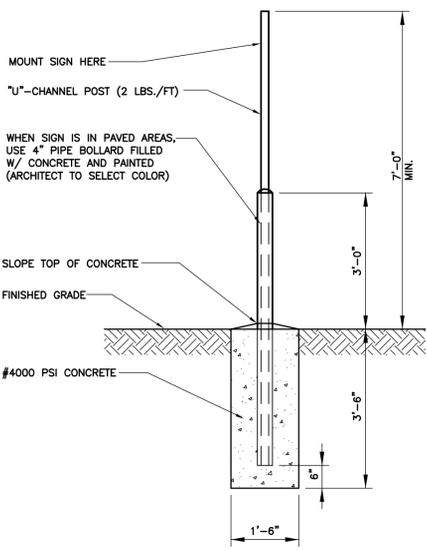


INTEGRAL CONCRETE CURB AND WALK (WITH UNDERDRAIN)

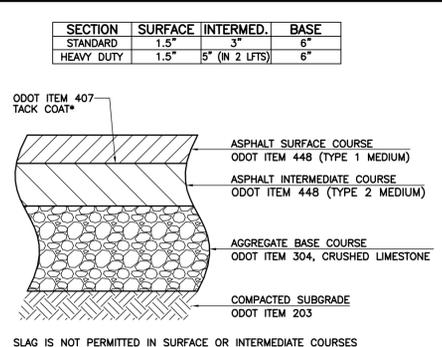


STRIPING DETAIL

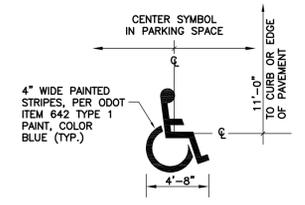
ALL SIGNS SHALL COMPLY WITH OHIO DEPARTMENT OF TRANSPORTATION, "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES", LOCAL CODES AND AS SPECIFIED.
THE SIGN SHEETING MATERIAL SHALL BE TYPE "G" REFLECTIVE SHEETING. ALL DIRECTIONAL SIGNAGE SHALL HAVE A 7'-0" CLEARANCE TO THE BASE.
MOUNT SIGN IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.



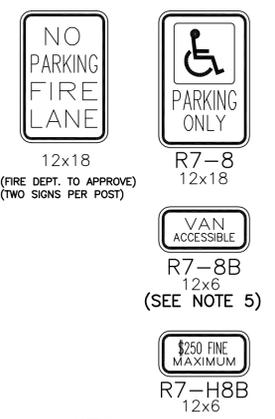
STANDARD SIGN BASE



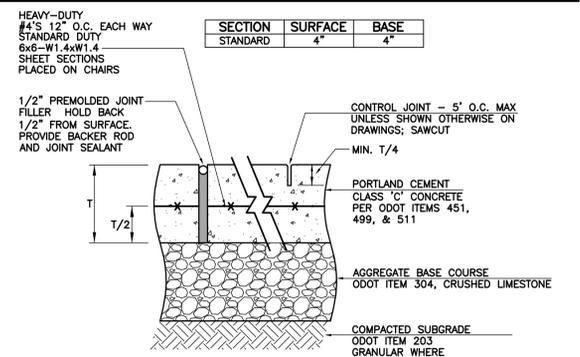
ASPHALT PAVEMENT DETAIL



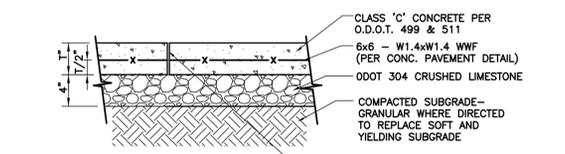
ACCESSIBLE SYMBOL DETAIL



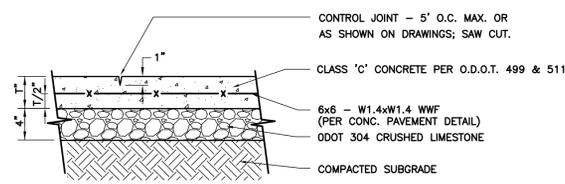
ACCESSIBLE PARKING SIGNS



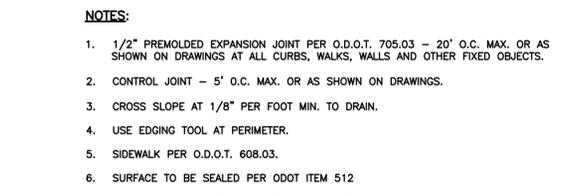
REINFORCED CONCRETE PAVEMENT DETAIL



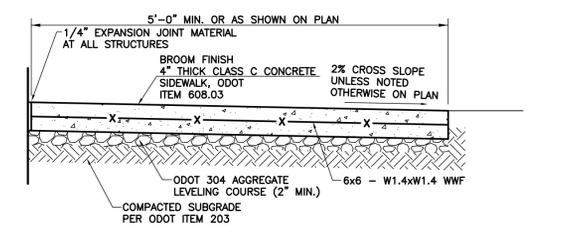
EXPANSION JOINT



CONTROL JOINT



CONCRETE SIDEWALK



CONCRETE SIDEWALK

SLAG IS NOT PERMITTED IN SURFACE OR INTERMEDIATE COURSES
* TACK COAT ONLY REQUIRED WHEN SURFACE COURSE IS INSTALLED 24 HOURS OR MORE AFTER INTERMEDIATE COURSE.
** ASSUMED PAVEMENT DESIGN, GEOTECHNICAL ENGINEER TO VERIFY DESIGN

NOTES:
1. 1/2" PREMOLDED EXPANSION JOINT PER O.D.O.T. 705.03 - 20' O.C. MAX. UNLESS SHOWN OTHERWISE ON DRAWINGS AND AT ALL CURBS, WALKS, WALLS AND OTHER FIXED OBJECTS.
2. CONTROL JOINT - 5' O.C. MAX OR AS SHOWN ON DRAWINGS.
3. CROSS SLOPE AT 1/8" PER FOOT MIN. TO DRAIN.
4. USE EDGING TOOL AT PERIMETER.
5. SIDEWALK PER O.D.O.T. 608.03.
6. PROVIDE HEAVY BROOM FINISH ON ALL RAMPS PERPENDICULAR TO RAMP SLOPE.
7. SURFACE TO BE SEALED PER ODOT ITEM 512.

NOTES:
1. SEE SITE LAYOUT PLAN FOR SIGN LOCATIONS. LOCATIONS TO BE FIELD VERIFIED.
2. SIGN SHALL BE SINGLE POST DESIGN.
3. SIGN POST SHALL BE U CHANNEL TYPE PER ODOT SECTION 730.015. DRAWING TC-41.20.
4. FIELD OF SIGNS SHALL BE BLUE RETROREFLECTIVE AND LEGEND SHALL BE WHITE RETROREFLECTIVE.
5. SEE PLAN FOR LOCATION OF VAN SPACE

NOTES:
1. 1/2" PREMOLDED EXPANSION JOINT PER O.D.O.T. 705.03 - 20' O.C. MAX. OR AS SHOWN ON DRAWINGS AND AT ALL CURBS, WALKS, WALLS AND OTHER FIXED OBJECTS.
2. CONTROL JOINT - 5' O.C. MAX. OR AS SHOWN ON DRAWINGS.
3. CROSS SLOPE AT 1/8" PER FOOT MIN. TO DRAIN.
4. USE EDGING TOOL AT PERIMETER.
5. SIDEWALK PER O.D.O.T. 608.03.
6. SURFACE TO BE SEALED PER ODOT ITEM 512.

SITE DETAILS
N.T.S.

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STATE OF OHIO
MICHAEL G. THORSON
REGISTERED PROFESSIONAL ENGINEER
E-49626

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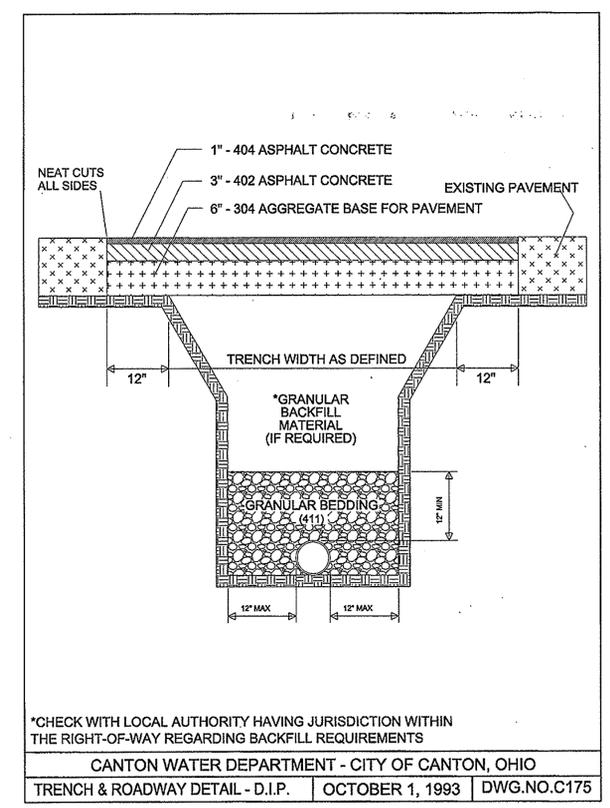
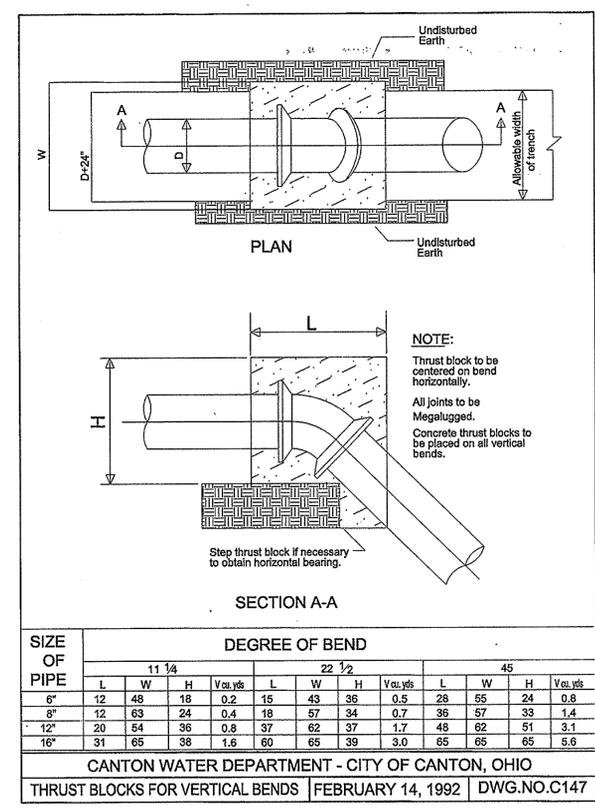
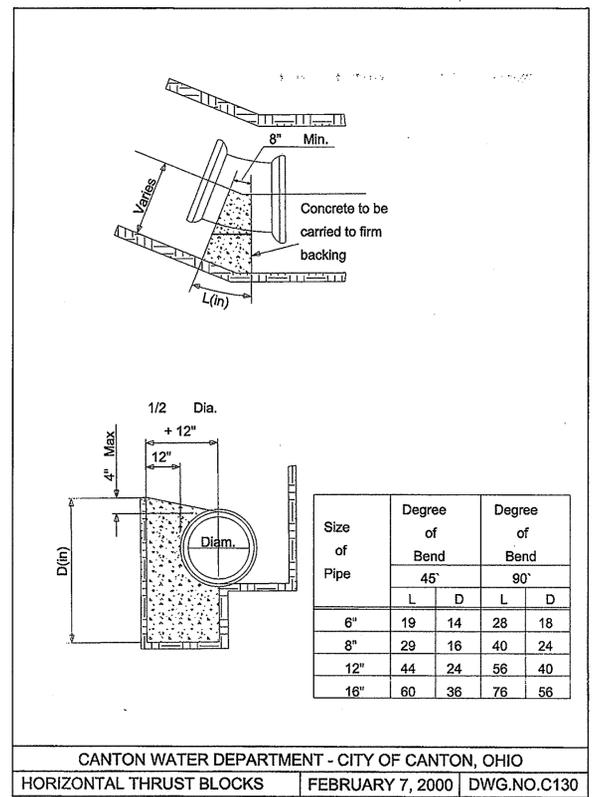
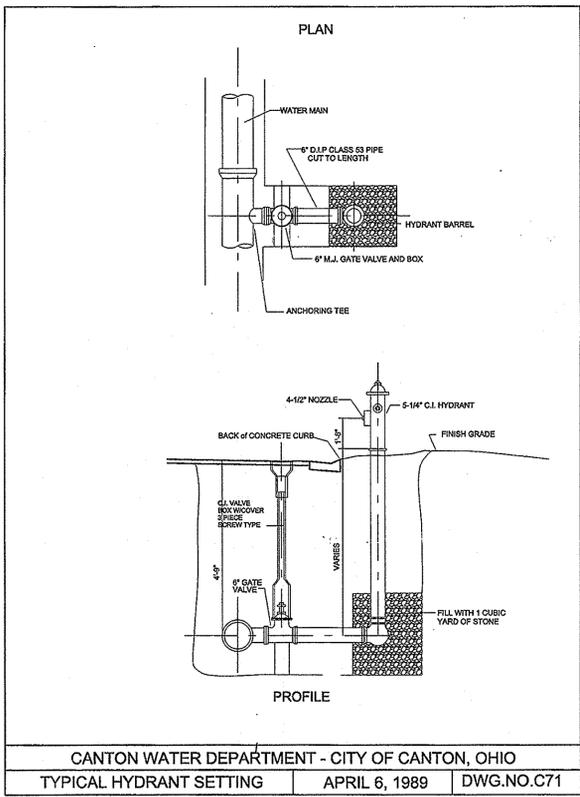
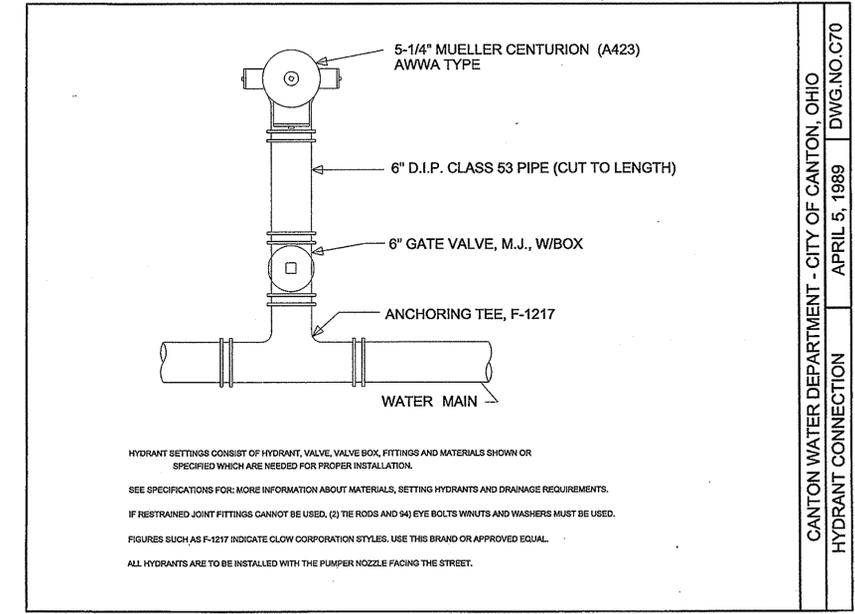


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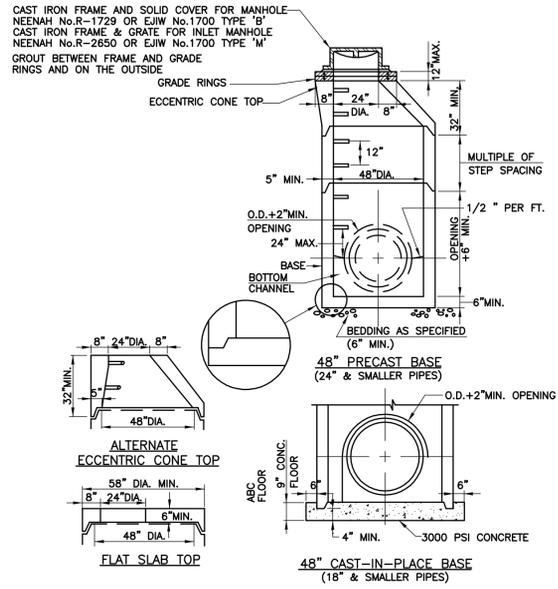


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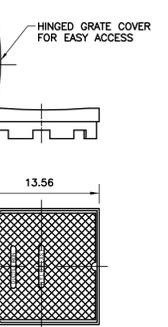
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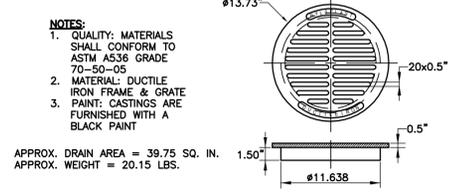
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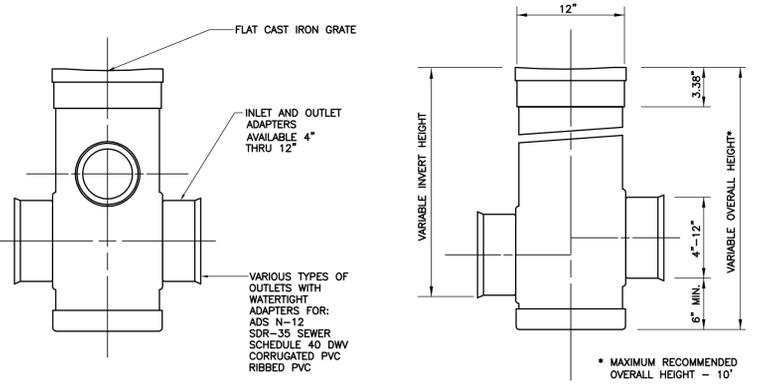
STANDARD PRECAST CONCRETE MANHOLE
24" PIPE OR SMALLER



- NOTES:**
1. QUALITY: MATERIALS SHALL CONFORM TO ASTM A536 GRADE 70-50-05 & A48-CLASS 30B.
 2. MATERIAL: DUCTILE IRON FRAME W/CAST IRON FRAME.
 3. PAINT: CASTINGS ARE FURNISHED WITH A BLACK PAINT.
 4. SOLID COVER HAS H-25 HEAVY DUTY RATING.
 5. LOCKING DEVICE AVAILABLE UPON REQUEST.
 6. PRICE INCLUDES FRAME & GRATE/COVER.
- APPROX. WEIGHT WITH FRAME = 39.90 LBS.

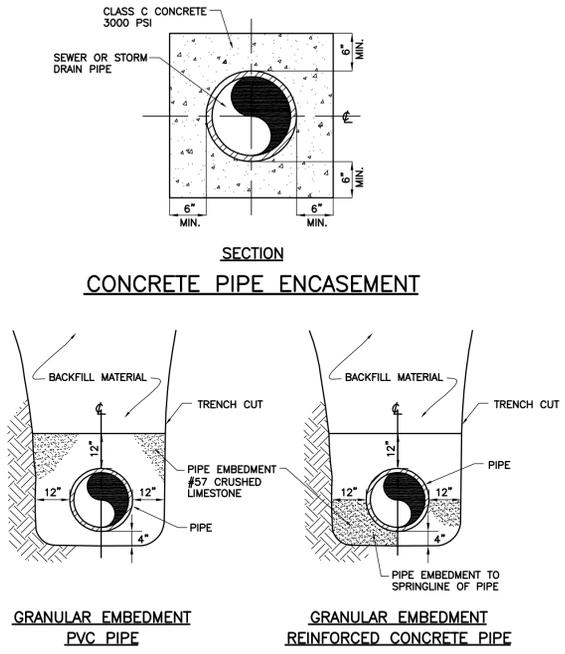


- NOTES:**
1. QUALITY: MATERIALS SHALL CONFORM TO ASTM A536 GRADE 70-50-05
 2. MATERIAL: DUCTILE IRON FRAME & GRATE
 3. PAINT: CASTINGS ARE FURNISHED WITH A BLACK PAINT
- APPROX. DRAIN AREA = 39.75 SQ. IN.
APPROX. WEIGHT = 20.15 LBS.

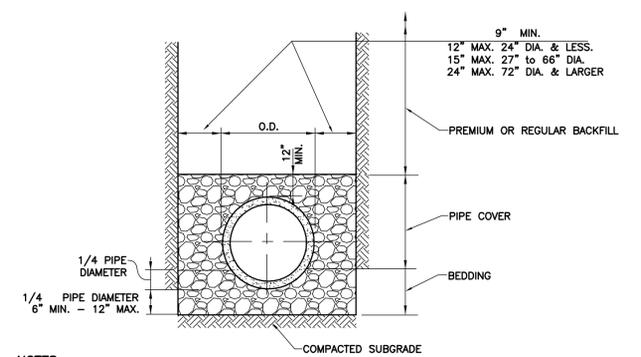


NYLOPLAST 12" YARD DRAIN

- NOTES:**
- SECTIONS OF THE PRECAST MANHOLE SHALL BE CAST AND ASSEMBLED WITH EITHER ALL TONGUE OR ALL GROOVE ENDS UP. LIFT HOLES MAY BE PROVIDED IN EACH SECTION FOR HANDLING.
- TOP AND TRANSITION OR REDUCER SECTIONS MAY BE EITHER ECCENTRIC CONE, CONCENTRIC CONE OR FLAT SLAB.
- BASES FOR MANHOLES ARE SHOWN WITH MONOLITHIC FLOOR AND RISER WHICH MAY BE CAST IN ONE OR TWO OPERATIONS. A PERMISSIBLE ALTERNATE IS TO CAST AND SHIP THE FLOOR AND BARREL SEPARATELY. OPENINGS FOR INLET AND OUTLET PIPES SHALL BE PROVIDED, EITHER WHEN THE UNIT IS CAST OR LATER, TO MEET PROJECT REQUIREMENTS. BOTTOM CHANNELS MAY BE FORMED OF CONCRETE, PRECAST IN THE BASE OR BY FIELD CONSTRUCTION. FLOORS MAY ALSO BE POURED IN PLACE.
- OPENINGS IN RISER SECTIONS FOR 18" AND SMALLER INLET PIPES SHALL BE PREFABRICATED. FLEXIBLE CONNECTIONS SHALL BE PROVIDED FOR SANITARY AND COMBINED SEWERS. PREMIUM SEALS SHALL MEET ASTM C 923.
- JOINT SEALS BETWEEN PRECAST MANHOLE SECTIONS AND SEWERS SHALL BE RESILIENT AND FLEXIBLE GASKET JOINTS SHALL MEET ASTM C 443, FEDERAL SPECIFICATIONS SS-5-00210 (210 A) AND AASHTO M-198.
- MANHOLE JOINTS AND GRADE RINGS SHALL BE SEALED EXTERNALLY AND BETWEEN THE GRADE RINGS WITH A LAYER OF MASTIC COMPOUND SUCH AS FABERLINE, KENT SEAL OR APPROVED EQUIVALENT.
- MATERIALS FOR BASES AND OTHER PRECAST SECTIONS, INCLUDING REINFORCEMENT NOT SPECIFIED HEREON, SHALL COMPLY WITH THE SPECIFICATIONS.
- PRECAST MANHOLES SHALL CONFORM TO THE REQUIREMENTS OF ASTM C 478.
- SEAL ALL LIFT HOLES WITH APPROVED CONCRETE PLUGS.
- LANDING PLATFORMS AS SHOWN ON THE LANDING DETAILS SHALL BE INSTALLED IN MANHOLES THAT ARE OVER 28 FEET DEEP TO THE INVERT WITH A MAXIMUM VERTICAL SPACING OF 20 FEET.
- MANHOLE FRAMES - CHIMNEY SEALS WILL BE REQUIRED ON ALL NEW SANITARY MANHOLES
- A MINIMUM OF 3" VERTICAL WALL IS REQUIRED BELOW THE CASTING FOR INSTALLATION OF CHIMNEY SEALS.

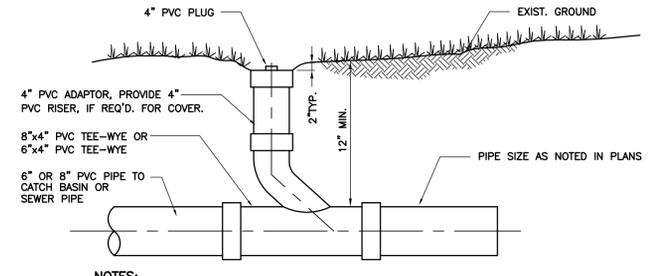


BEDDING DETAILS



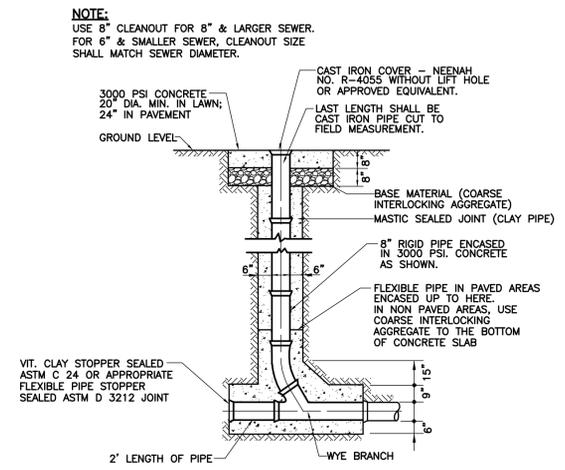
- NOTES:**
- LATERAL CONNECTIONS TO HAVE A MINIMUM BEDDING DEPTH OF 3" COARSE AGGREGATE.
- PIPE COVER SHALL CONSIST OF COARSE INTERLOCKING AGGREGATE NO. 57, 6, 67, 68, 7, 78, OR 8.
- BEDDING SHALL CONSIST OF COARSE INTERLOCKING AGGREGATE NO. 57, 6, 67, 68, 7, 78, OR 8 FOR 60" OR SMALLER DIAMETER PIPE. FOR 66" OR LARGER DIAMETER PIPE NO. 4 AGGREGATE MAY ALSO BE USED.
- PREMIUM BACKFILL SHALL CONSIST OF COARSE INTERLOCKING AGGREGATE NO. 57, 6, 67, 68, 7, 78, 8, ODOT ITEM 304, OR LIMESTONE SCREENINGS.
- TRENCH WIDTH AND CONCRETE CRADLE WIDTH SHALL BE O.D. OF PIPE PLUS 9" ON EACH SIDE OF PIPE.
- FOR CONCRETE AND DUCTILE IRON PIPE, PIPE COVER IS TO THE SPRINGLINE OR GREATER.
- IN PAVED AREAS COARSE INTERLOCKING AGGREGATE TO THE TOP OF THE TRENCH ON ALL TYPES OF PIPE.

CLEANOUT

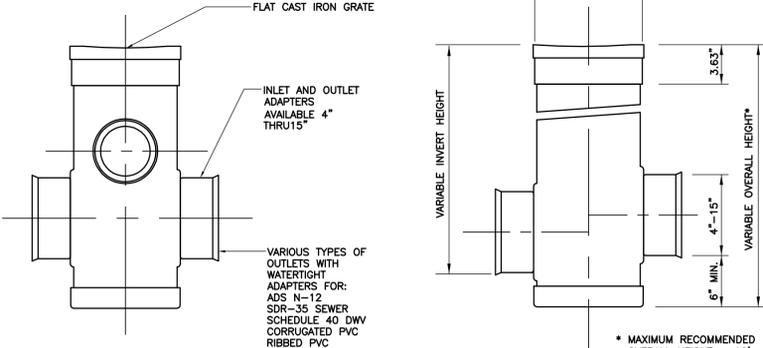
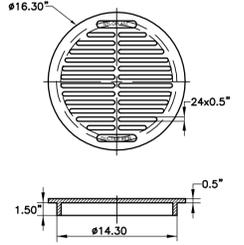


- NOTES:**
1. PROVIDE A CLEANOUT ON EACH DRAIN CONNECTION. THE PRICE BID FOR 6" & SMALLER CLEANOUT SHALL INCLUDE THE PVC TEE-WYE, 4" PVC PIPE, 4" PVC PLUG (SCREW TYPE) AND INSTALLATION.
 2. LOCATION OF CLEANOUT SHALL BE AS SHOWN ON THE UTILITY PLAN.

HEAVY DUTY CLEANOUT



- NOTES:**
1. QUALITY: MATERIALS SHALL CONFORM TO ASTM A536 GRADE 70-50-05
 2. MATERIAL: DUCTILE IRON FRAME & GRATE
 3. PAINT: CASTINGS ARE FURNISHED WITH A BLACK PAINT
- APPROX. DRAIN AREA = 62.03 SQ. IN.
APPROX. WEIGHT = 35.00 LBS.



NYLOPLAST 15" YARD DRAIN

SITE DETAILS

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Designed: TBA
Drafted: TBA
Checked: MNS

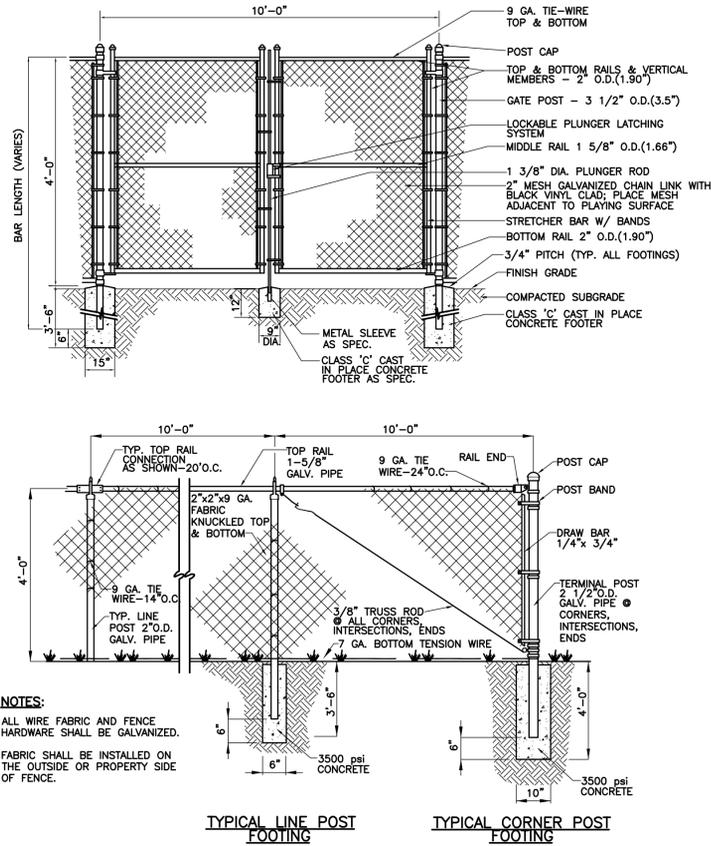
Revisions:

No.	Date	Description
1	07-21-12	REVISED PER BUILDING AND ENGINEERING REVIEW COMMENTS

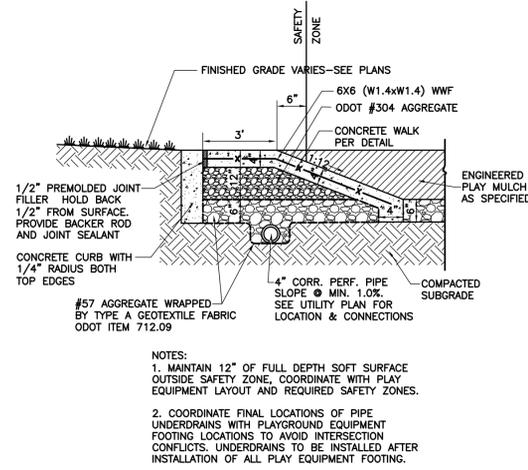
SITE DETAILS

C-10
11044

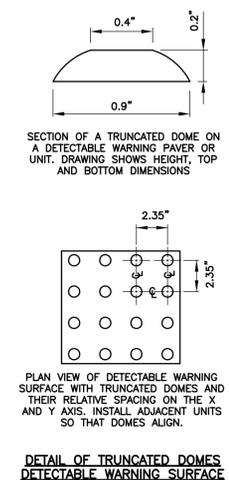
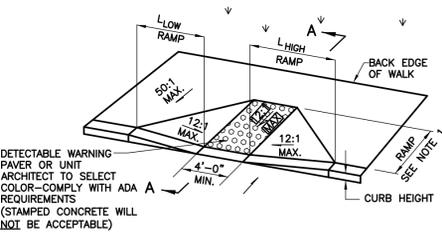
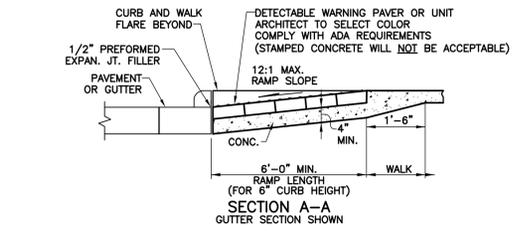
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4' HIGH BLACK VINYL CHAIN LINK FENCE & DOUBLE GATE DETAIL



ACCESSIBLE RAMP TO SOFT SURFACE PLAYGROUND AREA

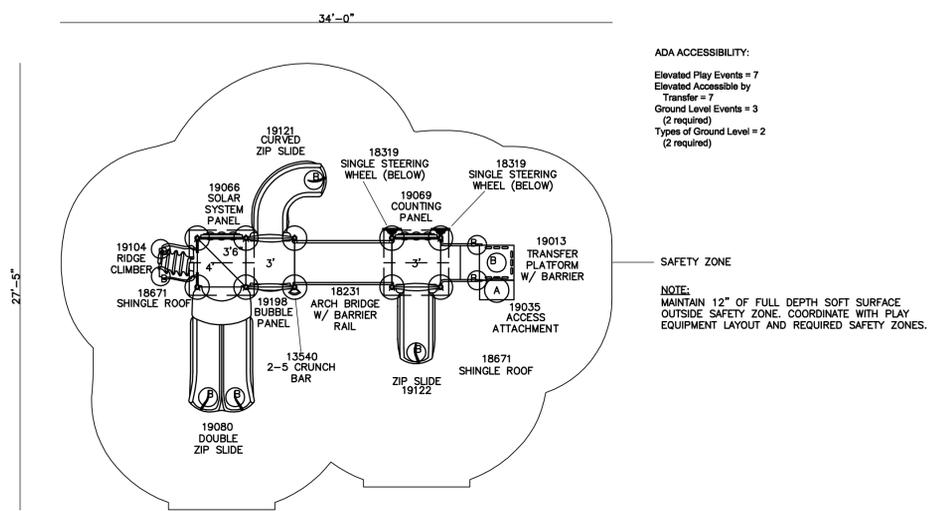


VEHICULAR WAY SLOPE	CURB RAMP LENGTHS @ 1"/FT.	
	L LOW SIDE *	L HIGH SIDE *
0.01	5'-5"	6'-10"
0.02	4'-10"	7'-11"
0.03	4'-5"	9'-5"
0.04	4'-1"	11'-8"
0.05	3'-9"	15'-2"

- NOTES:**
- THE MINIMUM LENGTH OF A RAMP IS 6' FROM THE BACK OF A 6" HIGH CURB AND MAY BE INCREASED WHERE FEASIBLE TO OBTAIN A FLATTER RAMP SLOPE OR TO BETTER BLEND WITH THE WALK CONFIGURATION.
 - THERE SHALL BE A MINIMUM OF 70 PERCENT CONTRAST WITH ADJOINING SURFACES, EITHER LIGHT-TO-DARK OR DARK-TO-LIGHT. VISUAL CONTRAST SHALL BE MEASURED IN ACCORDANCE WITH EXISTING ADAAG, A4.2.9.2 APPENDIX.
 - INSTALL ADA COMPLIANT UNITS OR PAVERS PER MANUFACTURER'S RECOMMENDATIONS.
 - DETECTABLE WARNING SURFACE MUST EXTEND THE FULL WIDTH AND LENGTH OF RAMP.

RAMP DETAIL

PERPENDICULAR CURB RAMP DETAIL (NOT IN PUBLIC RIGHT-OF-WAY) RAMP TYPE 'D'



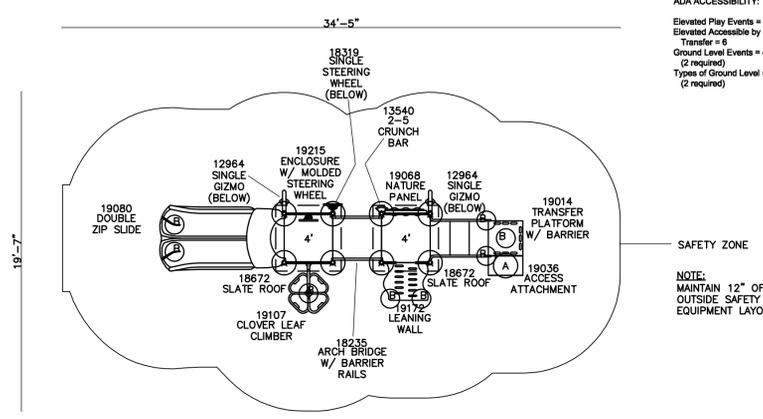
FOOTINGS TABLE

TYPE	DIAMETER/SIDE	DEPTH	QTY.
A	1'-6" [45.72cm]	2'-6" [76.20cm]	11
B	1'-2" [35.56cm]	2'-6" [76.20cm]	9

NOTE: ON NON-LETTERED HOLES, TO ENSURE CONCRETE REQUIREMENTS PLEASE REFER TO EACH COMPONENTS INSTALLATION SHEETS.

THIS DRAWING CANNOT BE ALTERED IN ANY WAY. IF CHANGES ARE REQUIRED PLEASE CONTACT YOUR GAMETIME REPRESENTATIVE @ 1-800-235-2440.

PRE-K PLAY STRUCTURE -- BID AS ALT G-1



FOOTINGS TABLE

TYPE	DIAMETER/SIDE	DEPTH	QTY.
A	1'-6" [45.72cm]	2'-6" [76.20cm]	9
B	1'-2" [35.56cm]	2'-6" [76.20cm]	8

NOTE: ON NON-LETTERED HOLES, TO ENSURE CONCRETE REQUIREMENTS PLEASE REFER TO EACH COMPONENTS INSTALLATION SHEETS.

THIS DRAWING CANNOT BE ALTERED IN ANY WAY. IF CHANGES ARE REQUIRED PLEASE CONTACT YOUR GAMETIME REPRESENTATIVE @ 1-800-235-2440.

SCHOOL AGE PLAY STRUCTURE -- BID AS ALT G-2



March 7, 2013

ISSUED FOR BID

Sheet Issue Date:	11/06/09
Designed:	TBA
Drafted:	TBA
Checked:	MNS

Revisions:

No.	Date	Description
1	07-21-12	REVISED PER BUILDING AND ENGINEERING REVIEW COMMENTS

Y:\2013\1011-0784\CD\4-Landscape\2013-03-04-C11 (REV)1.dwg, User: J. Thorson, Date: 12/20/12 10:34:18 AM, 11/20/12 10:34:20 PM

SCHEDULE OF DEMOLITION NOTES

- D-1 SAW CUT AND REMOVE PORTION OF EXISTING MASONRY WALL. PROVIDE SUPPORT FOR STRUCTURE BEFORE REMOVING ANY PORTION OF THE EXISTING WALLS. PROVIDE (3) L5 x 3 x 5/16" + 5/16" PLATE, BRG MIN 8" EACH END ON SOLID MASONRY, GROUT EXIST. CMU AS REQUIRED. ALL LINTELS TO BE GALVANIZED. TOOTH IN NEW MASONRY AS REQ'D. AT HEAD AND JAMB TO MATCH EXISTING. SEE DETAILS SHEET A-601
- D-2 REMOVE EXISTING CMU WALL IN ITS ENTIRETY. SAW CUT AS REQ'D FOR CLEAN TERMINATION AT PORTIONS OF WALL TO REMAIN.
- D-3 REMOVE TILE & MASONRY WALL INCLUDING ASSOCIATED INSULATION AND SUPPORTS AT PERIMETER OF SAUNA.
- D-4 REMOVE DOOR, TRIM, FRAME, HARDWARE AND THRESHOLD. VERIFY ANY SALVAGEABLE PARTS WITH OWNER BEFORE REMOVING FROM SITE.
- D-5 REMOVE CABINETS, PLUMBING FIXTURES, TUB SURROUNDS, TOILET / SHOWER PARTITIONS, WALL MTD TOILET & SHOWER ACCESSORIES, SHELVING, FIRE EXTINGUISHERS & BRACKETS AND OTHER MISC. ITEMS
- D-6 SAWCUT & REMOVE PORTION OF EXISTING CONCRETE SLAB (AREA SHOWN HATCHED) COORD EXTENT WITH NEW WORK, COORD WITH MEP DRAWINGS.
- D-7 REMOVE EXISTING FLOOR TILES, GROUT & GROUT BED TO CONCRETE FLOOR. REPAIR FLOOR FLAT & LEVEL TO RECEIVE NEW FINISHES.

SCHEDULE OF DEMOLITION NOTES

- D-8 REMOVE EXISTING TILED SEAT/ BENCH AND ASSOCIATED CMU SUPPORT STRUCTURE IN ITS ENTIRETY.
- D-9 REMOVE EXISTING CEILING CONSTRUCTION IN ITS ENTIRETY. COORDINATE WITH HVAC & ELECTRICAL DEMOLITION DRAWINGS.
- D-10 REMOVE CONCRETE LOCKER BASE IN ITS ENTIRETY, SAW CUT AS REQ'D FOR CLEAN TERMINATION AT PORTIONS OF SLAB TO REMAIN.
- D-13 REMOVE WALL BASE & ADHESIVES FROM PERIMETER OF ROOM & LOCKER BASE.
- D-15 REMOVE WALL MTD GRAB BARS AND OR SHOWER CURTAIN RODS AND ASSOCIATED SUPPORTS.
- D-17 REMOVE SHOWER VALVE/ CONTROLS, COORD w/ PLUMBING DEMOLITION.
- D-20 EXISTING THRESHOLD TO REMAIN.
- D-33 REMOVE EXISTING LOCKERS TURN OVER TO OWNER OR REMOVE FROM SITE.
- D-55 EXISTING CEILING GRID TO REMAIN MODIFY GRID AND SUPPORTS AS REQUIRED REPLACE ADJACENT DAMAGED OR MISSING TILE WITH MATERIAL SALVAGED FROM CEILING DEMO AREAS.

SOUND INSULATION NOTES

- 1. ASSEMBLIES SHALL BE AIRTIGHT - HAIRLINE CRACKS AND SMALL HOLES ARE NOT ALLOWED
- 2. RECESSED WALL FIXTURES SUCH AS, OUTLETS, DEVICES, AND OTHER ITEMS WHICH PENETRATE THE GYPSUM WALLBOARD SURFACE SHALL NOT BE LOCATED BACK-TO-BACK IN THE SAME STUD CAVITY. ANY OPENINGS FOR SUCH FIXTURES SHALL BE CAREFULLY CUT TO SIZE AND SEALED TO THE PENETRATING ITEM
- 3. THE ENTIRE PERIMETER OF A SOUND INSULATING ASSEMBLY SHALL BE MADE AIRTIGHT TO PREVENT SOUND FROM FLANKING
- 4. WHERE STC-RATED GYPSUM BOARD ASSEMBLIES ARE INDICATED, SEAL CONSTRUCTION AT PERIMETERS, CONTROL AND EXPANSION JOINTS, OPENINGS AND PENETRATIONS WITH A CONTINUOUS BEAD OF ACOUSTICAL SEALANT INCLUDING A BEAD AT BOTH FACES OF PARTITIONS. COMPLY WITH ASTM C919 AND MANUFACTURER'S RECOMMENDATIONS FOR LOCATION OF EDGE TRIM AND CLOSE OFF SOUND-FLANKING PATHS AROUND OR THROUGH CONSTRUCTION, INCLUDING SEALING OF PARTITIONS ABOVE ACOUSTICAL CEILINGS

GENERAL NOTES

- 1. COORDINATE DEMOLITION WITH EXTENT OF NEW WORK.
 - 2. COORDINATE DEMOLITION WITH RESPECTIVE CIVIL, STRUCTURAL, PLUMBING, MECHANICAL AND ELECTRICAL DRAWINGS
- ## DENOTES DEMOLITION NOTE

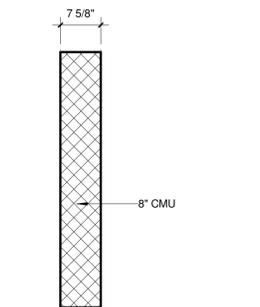
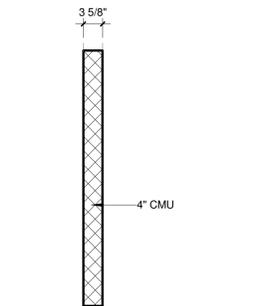
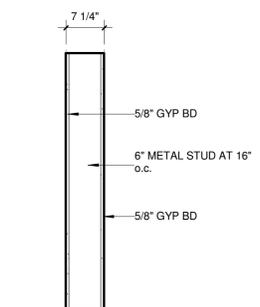
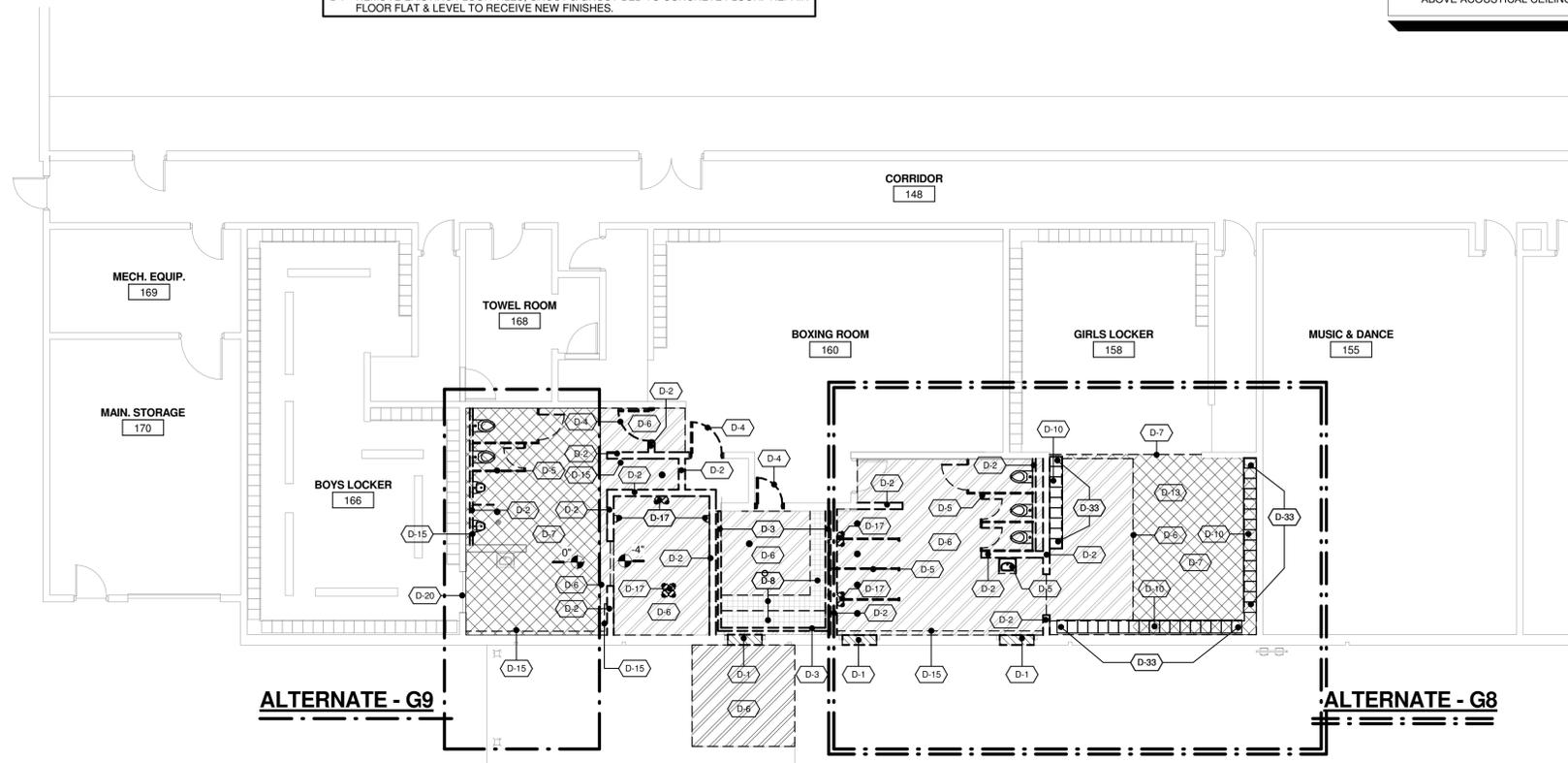
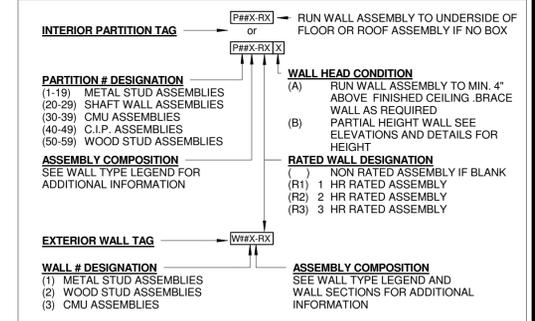
GENERAL NOTES

- 1. ALL GYPSUM BOARD SHALL BE 5/8" THICK TYPE 'X' UNLESS NOTED OTHERWISE OR AS REQUIRED BY U.L. LISTINGS
- 2. ALL GYPSUM BOARD EDGES SHALL BE LOCATED ON A SUPPORT
- 3. REFER TO SHEET G-101 (CODE DATA/ RATED WALL PLAN) FOR RATED WALL LOCATIONS AND RATING REQUIREMENTS
- 4. REFER TO BUILDING SECTIONS FOR RATED FLOOR/ CEILING AND ROOF/ CEILING ASSEMBLIES
- 5. ADDITIONAL WALL CONDITIONS EXIST THROUGHOUT THE BUILDING, REFER ENLARGED DETAILS FOR MATERIAL AND RATINGS AS REQUIRED
- 6. PROVIDE HORIZONTAL BRACING FOR METAL STUDS PER STUD MANUFACTURER'S RECOMMENDATIONS
- 7. REFER TO STRUCTURAL DRAWINGS FOR REQUIRED GAUGES OF METAL STUDS AND SPECIAL STUD SPACING AT SHEAR WALL AND OPENINGS
- 8. REFER TO STRUCTURAL DRAWINGS FOR REINFORCING AT C.M.U. WALLS
- 9. SILL PLATES IN CONTACT WITH CONCRETE SLAB ON GRADE AND FURRING IN CONTACT WITH MASONRY WALLS SHALL BE PRESERVATIVE TREATED. (IF F.R.T.W. IS REQUIRED THEN F.R.T.W. REQUIREMENT TAKES PRECEDENT)
- 10. RUN ALL WALLS TO UNDERSIDE OF FLOOR OR ROOF DECK UNLESS NOTED OTHERWISE. ALL RATED WALLS TO BE FIRE STOPPED - REFER TO SPECIFICATION 07 84 00 FOR FIRE STOPPING DETAILS
- 11. PROVIDE MIN. 20 GAUGE METAL STUDS AT ALL WALLS WITH CERAMIC TILE FINISH AS INDICATED ON INTERIOR ELEVATION AND FINISH SCHEDULE
- 12. ALL WOOD BLOCKING AND FURRING TO BE FIRE TREATED (F.R.T.W.)
- 13. COMPLETE CONSTRUCTION OF ALL FIRE RATED ASSEMBLIES PRIOR TO CONSTRUCTION OF ADJACENT NON-RATED ASSEMBLIES
- 14. ALL INSULATION MATERIALS SHALL BE UL CLASSIFIED
- 15. PENETRATIONS AT FIRE RATED ASSEMBLIES SHALL BE FULLY FIRESTOPPED - REFER TO SPECIFICATION 07 84 00 FOR FIRE STOPPING DETAILS

SPECIAL GYPSUM BOARD APPLICATIONS

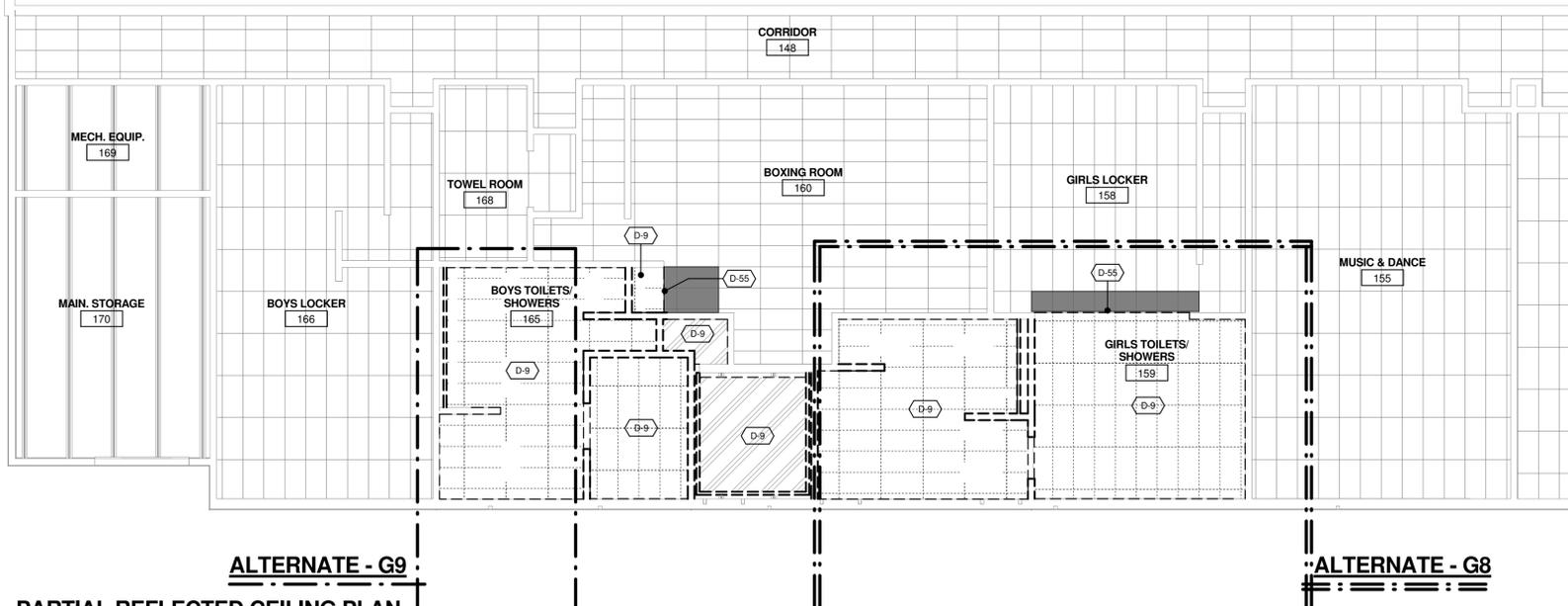
- PROVIDE MOISTURE, MOLD, AND MILDEW-RESISTANT GYPSUM BOARD AT THE FOLLOWING LOCATIONS: (REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION)
- 1. GLASS MAT, INTERIOR GYPSUM BOARD (09 21 16)
 - ALL EXTERIOR WALLS INTERIOR FACE*
 - BATHROOM WALLS AND CEILINGS
 - TUBS / SHOWER - CAST POLYMER SURROUNDS
 - PUBLIC RESTROOM WALLS
 - POOL ENCLOSURE WALLS AND CEILINGS**
 - WATER HEATER ROOMS WALLS**
 - EMPLOYEE TOILET WALLS**
 - 2. GLASS-MAT, GYPSUM BACKING BOARD (09 21 16) TILE BACKER BOARD AT TILE WALLS ONLY
 - PUBLIC RESTROOM WALLS
 - POOL ENCLOSURE WALLS**
 - GUESTROOM BATHROOMS**
 - 3. GLASS MAT, SHAFT LINER PANEL (09 21 16.23)
 - RATED SHAFT WALL ASSEMBLIES
 - 4. IN ADDITION TO THE ABOVE LISTED LOCATIONS, INSTALL MOISTURE- AND MOLD- RESISTANT GYPSUM BOARD AT ALL LOCATIONS THAT MAY BE SUBJECT TO MOISTURE EXPOSURE DURING CONSTRUCTION
- * INTERIOR WALLS MEETING EXTERIOR WALLS (FOR A DISTANCE OF 4'-0" FROM JUNCTION WITH EXTERIOR WALL)
 ** PROJECT SPECIFIC VERIFY WITH OWNER REQUIREMENTS

PARTITION AND WALL TAG DESCRIPTION

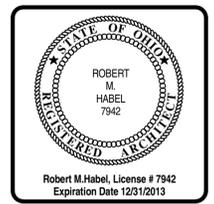


WALL TYPES
 3/4" = 1'-0"

FIRST FLOOR DEMOLITION PLAN
 1/8" = 1'-0"



BRAUN & STEIDL architects
 Columbus
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 1041 West Market Street - Akron, OH 44315 - 330.864.7755 fax 330.864.3691

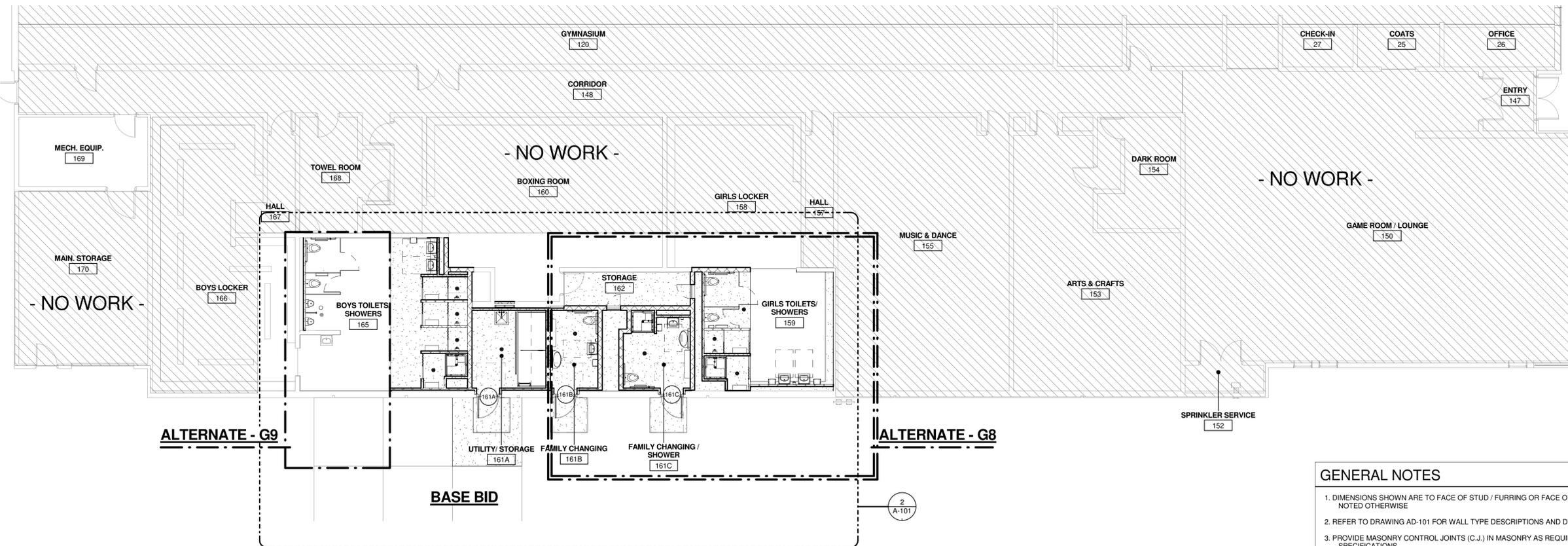


THE CITY OF CANTON
 WILLIAM J. HEAD II, MAYOR
WATER PARK FACILITY PROJECT AT EDWARD "PEEL" COLEMAN CENTER
 1400 Sherrick Road S.E. - Canton, Ohio 44707

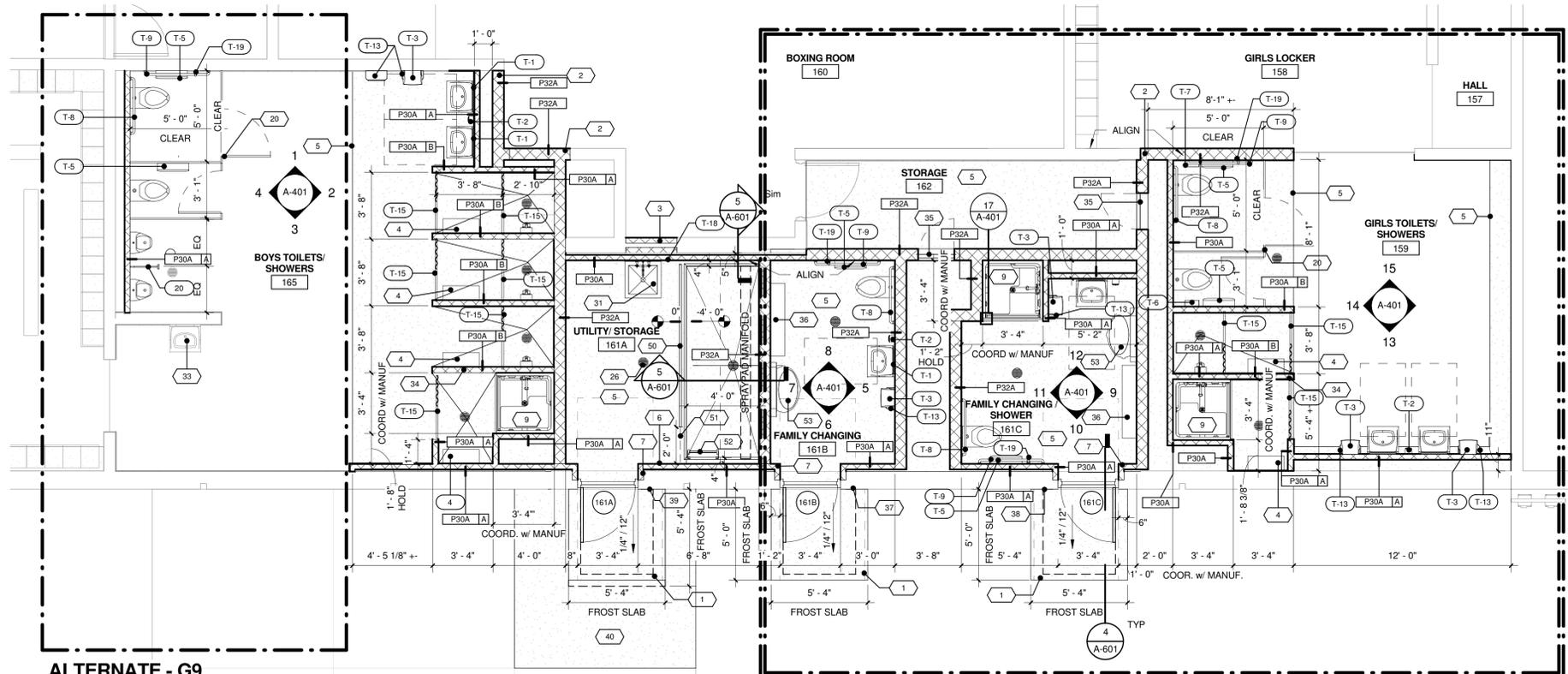
March 7, 2013
ISSUED FOR BID

Sheet Issue Date: 04-23-12
 Designed:
 Drafted:
 Checked:
 Revisions:
 No. Date Description

DEMOLITION PLANS
AD-101
 11044



PARTIAL FIRST FLOOR PLAN
1/8" = 1'-0"



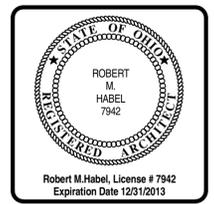
ENLARGED FIRST FLOOR PLAN
1/4" = 1'-0"

- GENERAL NOTES**
1. DIMENSIONS SHOWN ARE TO FACE OF STUD / FURRING OR FACE OF C.M.U. UNLESS NOTED OTHERWISE
 2. REFER TO DRAWING AD-101 FOR WALL TYPE DESCRIPTIONS AND DETAILS
 3. PROVIDE MASONRY CONTROL JOINTS (C.J.) IN MASONRY AS REQUIRED BY SPECIFICATIONS
 4. ALL GYPSUM BOARD EDGES SHALL BE LOCATED ON A SUPPORT
 5. REFER SHEET G-102 FOR LOCATION OF FIRE RATED WALLS.
 6. FURNISHINGS AND EQUIPMENT BY OWNER ARE NOTED AS N.I.C. OR SHOWN DASHED.
- ## DENOTES CODED NOTE # DENOTES TOILET ACCESSORIE NOTE

- SCHEDULE OF CODED NOTES**
- 1 FROST SLAB SEE DETAIL - SEE CIVIL FOR CONTINUATION OF WALK
 - 2 CMU INFILL AT EXISTING TOOTH-IN TO EXISTING WALL - PAINT TO MATCH ADJACENT SURFACES PROVIDE RUBBER BASE TO MATCH EXIST
 - 3 CMU INFILL AT EXISTING OPENING TOOTH-IN TO EXISTING WALL - PAINT TO MATCH ADJACENT SURFACES PROVIDE RUBBER BASE TO MATCH EXIST
 - 4 2" x 14 1/2" D WALL MTD PLASTIC BENCH w/ POWDER COATED STL CHANNEL FRAME. MODEL WMB-4 BY PILOT ROCK PARK PRODUCTS(RJ THOMAS MFG) OR EQUAL
 - 5 NEW CONCRETE FLOOR INFIL. 4" CONC. SLAB ON GRADE w/ ONE LAYER OF 6x6-w2.1xw2.1 W.W.F. 15 MIL VAPOR BARRIER (SEE SPEC) TIE INTO EXISTING VAPOR BARRIER 1/4" LAYER OF GRANULAR FILL BELOW SLAB. DOWEL INTO EXISTING SLAB EDGE AND SLOPE NEW SLAP TO FLOOR DRAINS TYP.
 - 6 WALL MOUNTED FIRE EXTINGUISHER - F.E.
 - 7 TIE-IN NEW MASONRY AT NEW DOOR JAMBS - PROVIDE BULL NOSED EDGE AT ALL OUTSIDE CORNERS
 - 9 ADA SHOWER ENCLOSURE - SEE PLUMBING DWG'S - ENCLOSURE INCLUDES FOLD DOWN SEAT GRAB BARS AND SHOWER CURTAIN ROD
 - 20 TOILET PARTITION / URINAL SCREEN
 - 26 FLOOR DRAIN - SEE PLUMB. DWG'S
 - 31 UTILITY SINK - SEE PLUMBING DWG'S
 - 33 EXISTING SINK AND ACCESSORIES TO REMAIN
 - 34 PROVIDE BULL NOSED EDGE AT ALL OUTSIDE CORNERS, SILLS AND EXPOSED TOP OF WALL AT PARTIAL HEIGHT WALLS
 - 35 24" x 24" SIDE WALL ACCESS PANEL MTD SILL AT 18" AFF - SEE SPEC
 - 36 4" x 14 1/2" D WALL MTD PLASTIC BENCH w/ POWDER COATED STL CHANNEL FRAME. MODEL WMB-4 BY PILOT ROCK PARK PRODUCTS(RJ THOMAS MFG) OR EQUAL
 - 37 ADA ROOM SIGN w/ "FAMILY CHANGING" MEN & WOMEN GRRAPHIC WITH ADA SYMBOL
 - 38 ADA ROOM SIGN w/ "FAMILY CHANGING / SHOWER" MEN & WOMEN GRRAPHIC WITH ADA SYMBOL AND SHOWER SYMBOL
 - 39 ADA ROOM SIGN w/ "UTILITY ROOM"
 - 40 CONC. SLAB - SEE CIVIL DRAWINGS
 - 46 ALUM DOWNSPOUT - SEE CIVIL FOR CONTINUATION
 - 48 EXISTING CONCRETE PATIO TO REMAIN - SEE CIVIL DWG'S
 - 50 1 1/2" DIA STL PIPE GUARDRAIL PROVIDE POST @ 5'-0" oc MAX - PAINT
 - 51 PROVIDE SAFTY CHAIN w/ EYELETS @ TOP AND MID RAIL
 - 52 WALL MOUNTED PIT LADDER - SEE SPEC AND DETAIL 3/A-102
 - 53 WALL MTD BABY CHANGING STATION - MODEL 961 BY BRADLY OR EQUAL MOUNT PER MANUF. RECOMMENDATIONS

- SCHEDULE OF TOILET ACCESSORIES**
- T-1 WALL-MOUNT MIRROR
 - T-2 WALL MOUNT SOAP DISPENSER - FBC, IBC
 - T-3 WALL-MOUNT PAPER TOWEL DISPENSER - FBC, IBC
 - T-5 TOILET TISSUE DISPENSER - FBC, IBC
 - T-6 TOILET SEAT COVER DISPENSER - FBC, IBC
 - T-7 SANITARY NAPKIN DISPOSAL - FBC, IBC
 - T-8 36" ADA GRAB BAR
 - T-9 42" ADA GRAB BAR
 - T-13 WALL MTD TRASH RECEPTACLE
 - T-15 SHOWER CURTAIN ROD & CURTAIN
 - T-18 WALL-MOUNT MOP HOLDER - FBC, IBC
 - T-19 24" VERT ADA GRAB BAR

BRAUN & STEIDL architects
Columbus
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1041 West Market Street - Akron, OH 44313 - 330.864.7755 fax 330.864.3691



THE CITY OF CANTON
WILLIAM J. HEAD II, MAYOR
WATER PARK FACILITY PROJECT AT EDWARD "PEEL" COLEMAN CENTER
1400 Sherrick Road S.E. - Canton, Ohio 44707

March 7, 2013
ISSUED FOR BID

Sheet Issue Date:	04-23-12	
Designed:		
Drafted:		
Checked:		
Revisions:		
No.	Date	Description

FIRST FLOOR PLAN
A-101
11044

GENERAL NOTES

- DIMENSIONS SHOWN ARE TO FACE OF STUD / FURRING OR FACE OF C.M.U. UNLESS NOTED OTHERWISE
- REFER TO DRAWING A-801 FOR WALL TYPE DESCRIPTIONS AND DETAILS
- REFER SHEET G-102 FOR LOCATION OF FIRE RATED WALLS

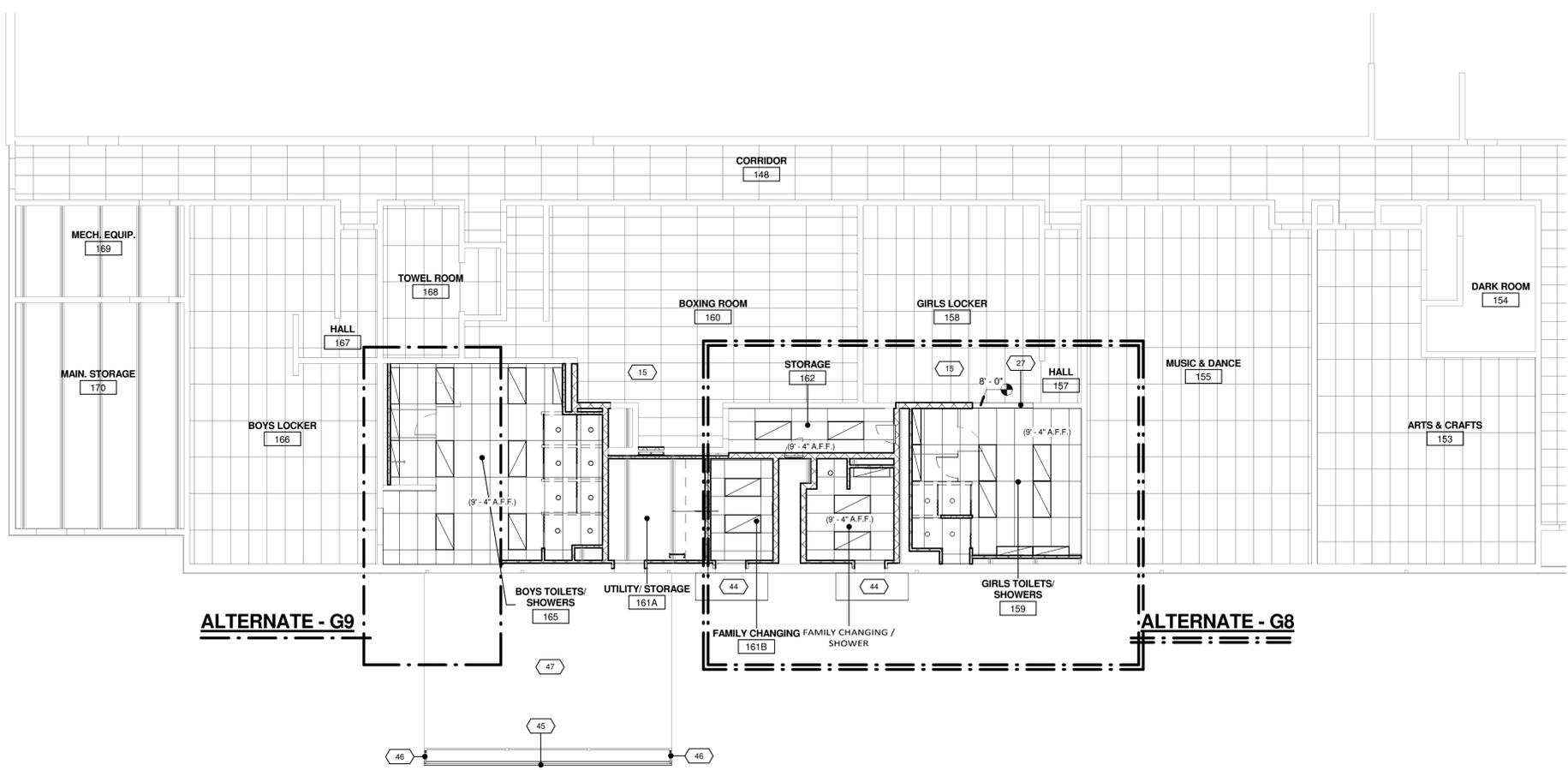
DENOTES CODED NOTE

CEILING PLAN LEGEND

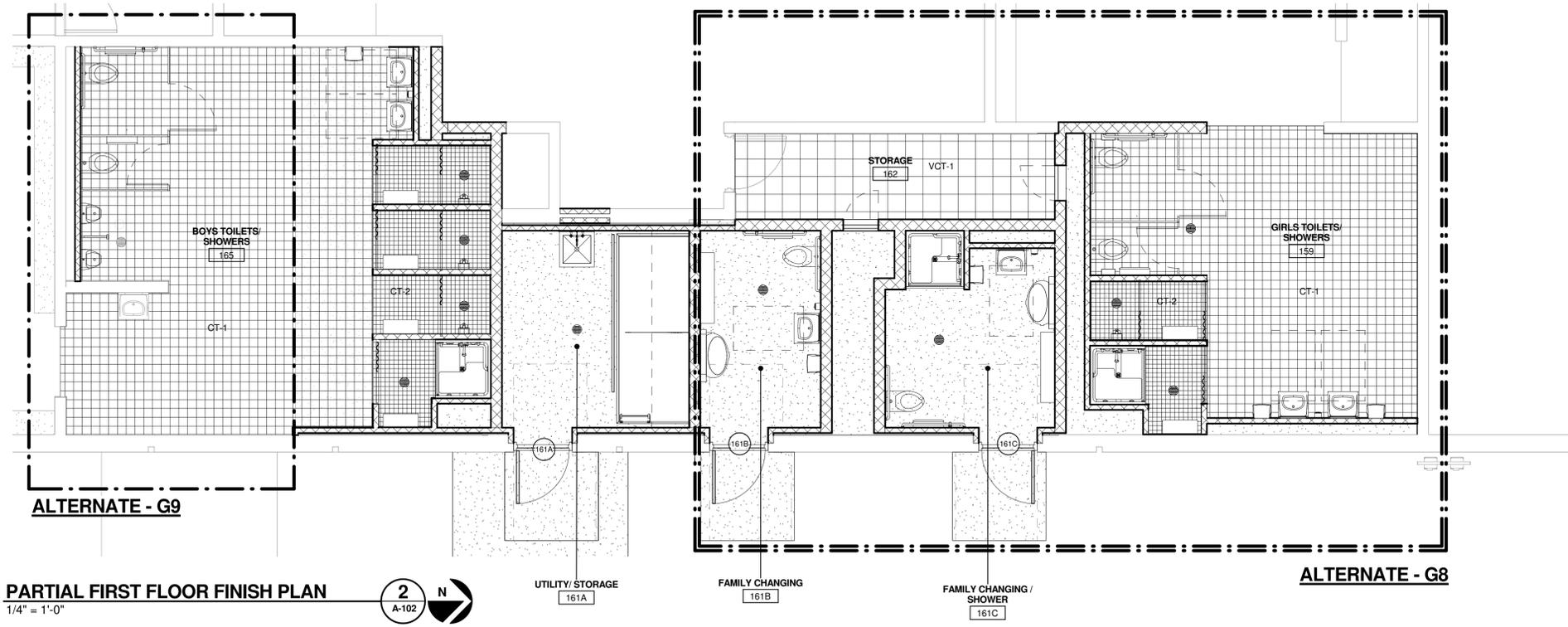
	5/8" GYPSUM or SUSPENDED SYSTEM - PAINT		SUSPENDED CEILING GRID
	EXPOSED		CEILING HEIGHT INDICATOR (X' - XX')
	RECESSED CAN FIXTURE		CEILING MOUNTED FIXTURE
	RECESSED WALL WASH FIXTURE		SPEAKER
	EXHAUST FAN - REFER TO MECH FOR SIZES		1 HR RATED CEILING ASSEMBLY (HORIZONTAL SHAFT WALL 4" CH STUD w/ 1" GYP. SHAFT LINER PANEL & (1) LAYERS 5/8" GYP. BD. (UL 499))
	SUPPLY AIR DIFFUSER - REFER TO MECH FOR SIZES		
	RETURN AIR GRILLE - REFER TO MECH FOR SIZES		

SCHEDULE OF CODED NOTES

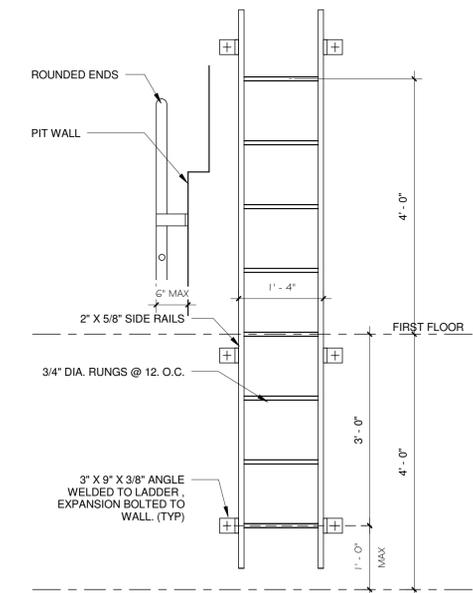
- EXISTING CEILING AND LIGHTING TO REMAIN. MODIFY GRID AS REQUIRED REPLACE DAMAGE TILES
- GYP. BD. SOFFIT & BULKHEAD MATCH CMU WALL THICKNESS - PAINT
- WALL MTD FABRIC AWNING - SEE SPEC
- REMOVE AND REPLACE EXISTING GUTTER
- ALUM DOWNSPOUT - SEE CIVIL FOR CONTINUATION
- EXISTING COVERED PATIO STRUCTURE TO REMAIN



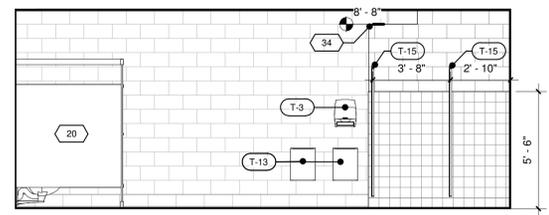
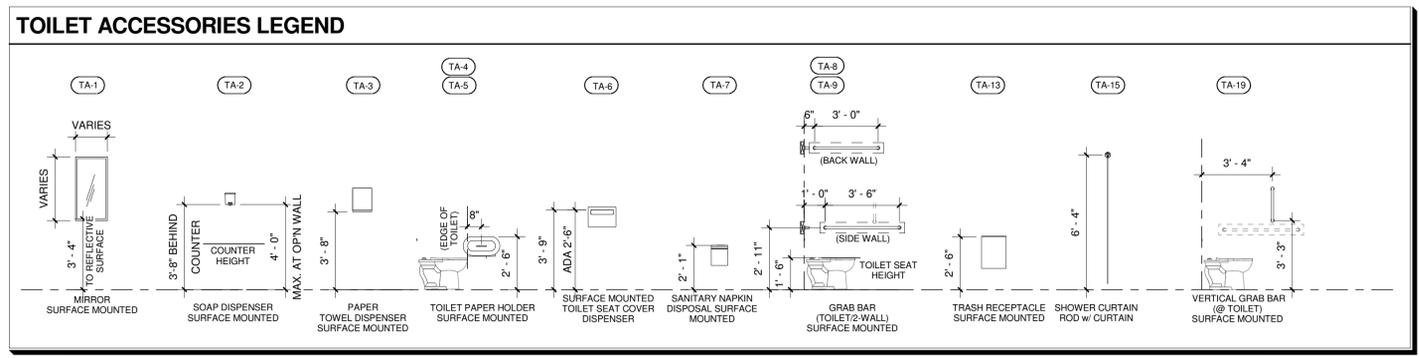
PARTIAL REFLECTED CEILING PLAN - FIRST FLOOR
1/8" = 1'-0"
1 A-102



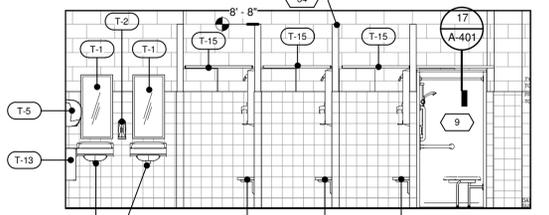
PARTIAL FIRST FLOOR FINISH PLAN
1/4" = 1'-0"
2 A-102



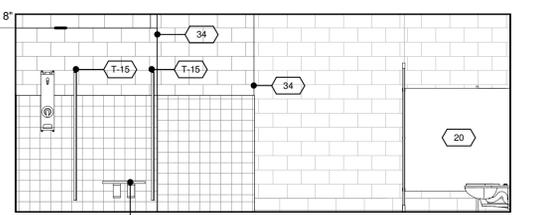
PIT LADDER DETAIL
3/4" = 1'-0"
3 A-102



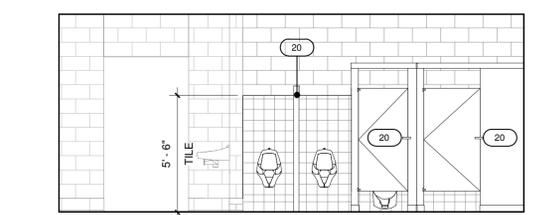
BOYS TOILET/ SHOWER ELEV - WEST - [BASE BID]
1/4" = 1'-0"
1



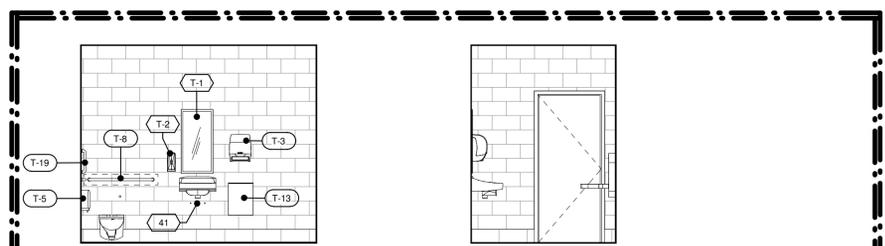
BOYS TOILET/ SHOWER ELEV - NORTH - [BASE BID]
1/4" = 1'-0"
2



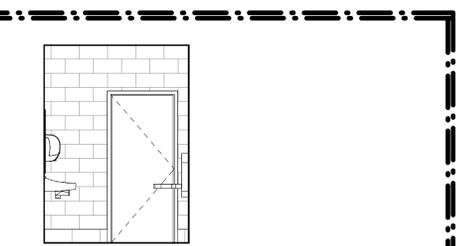
BOYS TOILET/ SHOWER ELEV - EAST - [BASE BID]
1/4" = 1'-0"
3



BOYS TOILET/ SHOWER ELEV - SOUTH - [ALTERNATE G9]
1/4" = 1'-0"
4



FAMILY CHANGING ELEV - NORTH
1/4" = 1'-0"
5



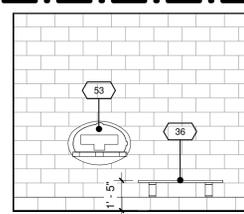
FAMILY CHANGING ELEV - EAST
1/4" = 1'-0"
6

SCHEDULE OF CODED NOTES

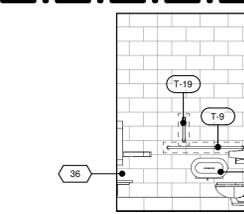
- FROST SLAB SEE DETAIL - SEE CIVIL FOR CONTINUATION OF WALK
- 2L x 14 1/2" D WALL MTD PLASTIC BENCH w/ POWDER COATED STL CHANNEL FRAME. MODEL WMB BY PILOT ROCK PARK PRODUCTS/RJ THOMAS MFG OR EQUAL
- ADA SHOWER ENCLOSURE - SEE PLUMBING DWG'S - ENCLOSURE INCLUDES FOLD DOWN SEAT GRAB BARS AND SHOWER CURTAIN ROD
- TOILET PARTITION / URINAL SCREEN
- GYP. BD. SOFFIT & BULKHEAD MATCH CMU WALL THICKNESS - PAINT
- PROVIDE BULL NOSED EDGE AT ALL OUTSIDE CORNERS, SILLS AND EXPOSED TOP OF WALL AT PARTIAL HEIGHT WALLS
- 4L x 14 1/2" D WALL MTD PLASTIC BENCH w/ POWDER COATED STL CHANNEL FRAME. MODEL WMB-4 BY PILOT ROCK PARK PRODUCTS/RJ THOMAS MFG OR EQUAL
- ADA ROOM SIGN w/ "FAMILY CHANGING" MEN & WOMEN GRRAPHIC WITH ADA SYMBOL
- ADA ROOM SIGN w/ "FAMILY CHANGING" / SHOWER" MEN & WOMEN GRRAPHIC WITH ADA SYMBOL AND SHOWER SYMBOL
- ADA ROOM SIGN w/ "UTILITY ROOM"
- PIPE PROTECTION - SEE PLUMB DWG'S
- RETURN TILE BASE TO CENTER OF WALL
- RUBBER BASE
- WALL MTD FABRIC AWNING - SEE SPEC
- REMOVE AND REPLACE EXISTING GUTTER
- ALUM DOWNSPOUT - SEE CIVIL FOR CONTINUATION
- TOOTH-IN NEW MASONRY AT NEW OPENINGS- MATCH ADJACENT
- WALL MTD BABY CHANGING STATION - MODEL 961 BY BRADLY OR EQUAL. MOUNT PER MANUF. RECOMMENDATIONS

SCHEDULE OF TOILET ACCESSORIES

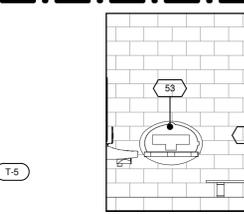
T-1	WALL-MOUNT MIRROR
T-2	WALL MOUNT SOAP DISPENSER - FBC, IBC
T-3	WALL-MOUNT PAPER TOWEL DISPENSER - FBC, IBC
T-5	TOILET TISSUE DISPENSER - FBC, IBC
T-8	36" ADA GRAB BAR
T-9	42" ADA GRAB BAR
T-13	WALL MTD TRASH RECEPTACLE
T-15	SHOWER CURTAIN ROD & CURTAIN
T-19	24" VERT ADA GRAB BAR



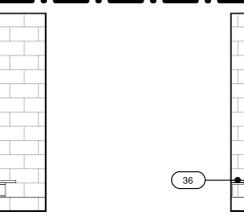
FAMILY CHANGING ELEV - SOUTH
1/4" = 1'-0"
7



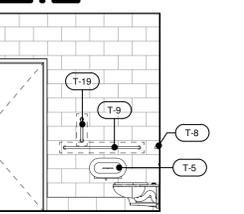
FAMILY CHANGING ELEV - WEST
1/4" = 1'-0"
8



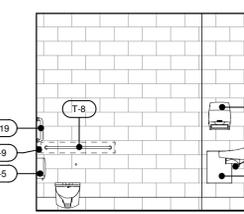
FAMILY SHOWER ELEV - NORTH
1/4" = 1'-0"
9



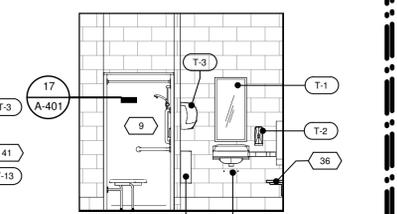
FAMILY SHOWER ELEV - EAST
1/4" = 1'-0"
10



FAMILY SHOWER ELEV - SOUTH
1/4" = 1'-0"
11

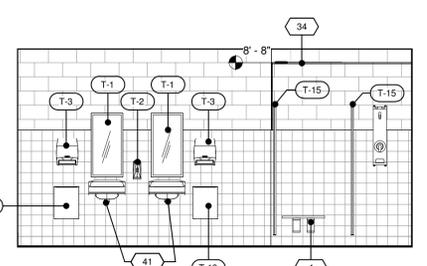


FAMILY SHOWER ELEV - WEST
1/4" = 1'-0"
12

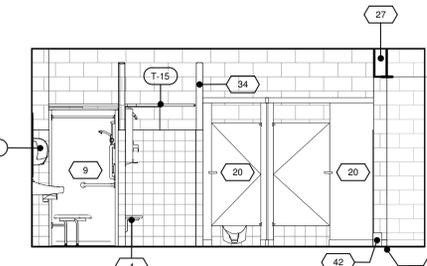


FAMILY SHOWER ELEV - WEST
1/4" = 1'-0"
12

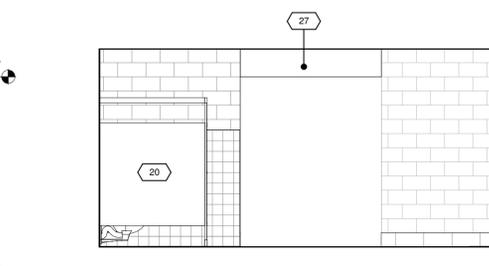
ALTERNATE G8



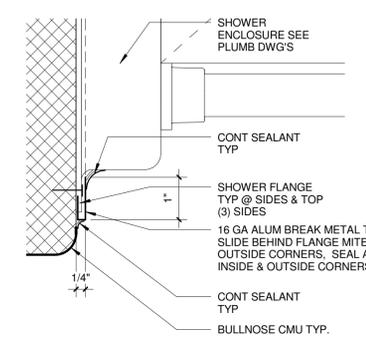
GIRLS TOILET/ SHOWER ELEV- EAST
1/4" = 1'-0"
13



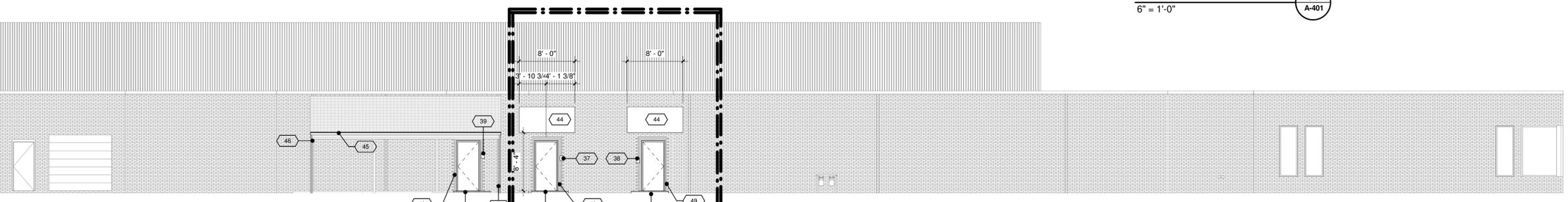
GIRLS TOILET/ SHOWER ELEV - SOUTH
1/4" = 1'-0"
14



GIRLS TOILET/ SHOWER ELEV - WEST
1/4" = 1'-0"
15



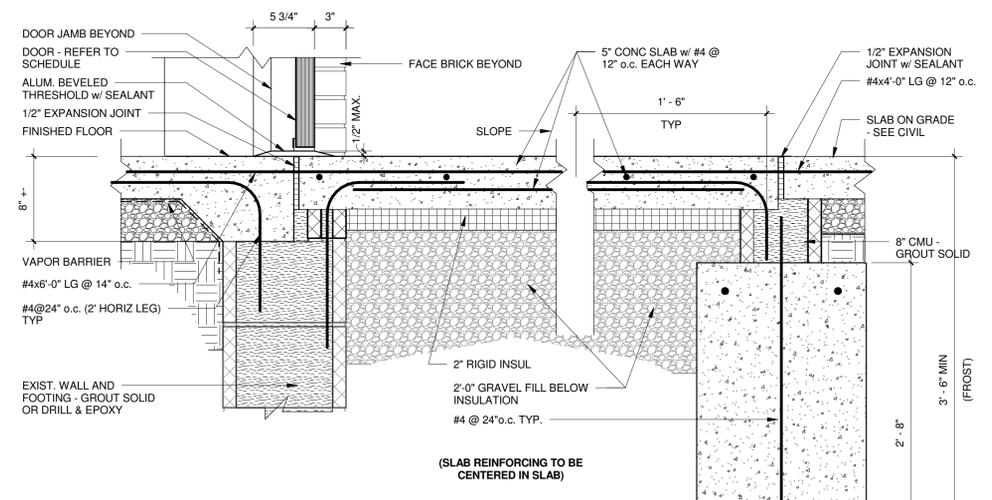
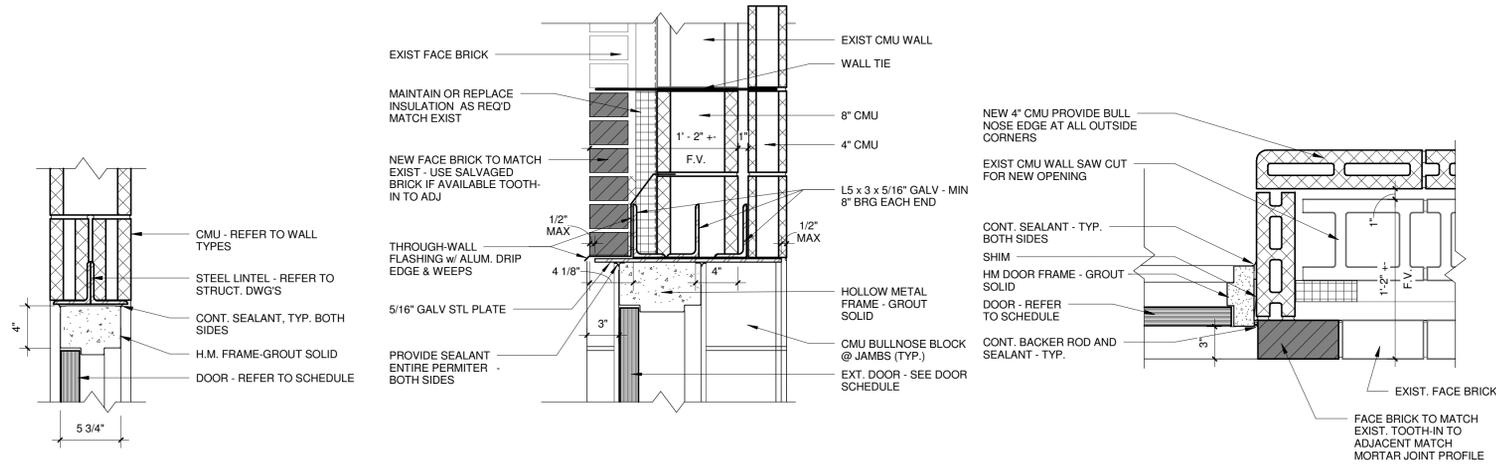
DETAIL @ ADA SHOWER TYP.
6" = 1'-0"
17



WEST ELEVATION
1/8" = 1'-0"
16

ALTERNATE G8

DOOR NUMBER	SUB MARK	ROOM NAME	HDW SET	DOOR TYPE	PAIR	DOOR					FRAME					DETAIL / SHEET (A-601)			RATINGS			COMMENTS
						WIDTH	HEIGHT	THICKNESS	MATERIAL	FINISH	DOOR GLAZING	TYPE	MATERIAL	FINISH	SIZE	HEAD	JAMB	THRESHOLD	FIRE LABEL	SMOKE RATING	PRESSURE RATING	
161A	-	UTILITY / STORAGE	1	A	No	3' - 0"	7' - 0"	1 3/4"	H.M.	PAINT	-	F1	H.M.	PAINT	5 3/4"	2	3	4	-	-	-	BASE BID
161B	-	FAMILY CHANGING	2	A	No	3' - 0"	7' - 0"	1 3/4"	H.M.	PAINT	-	F1	H.M.	PAINT	5 3/4"	2	3	4	-	-	-	ALTERNATE G8
161C	-	FAMILY CHANGING / SHOWER	2	A	No	3' - 0"	7' - 0"	1 3/4"	H.M.	PAINT	-	F1	H.M.	PAINT	5 3/4"	2	3	4	-	-	-	ALTERNATE G8

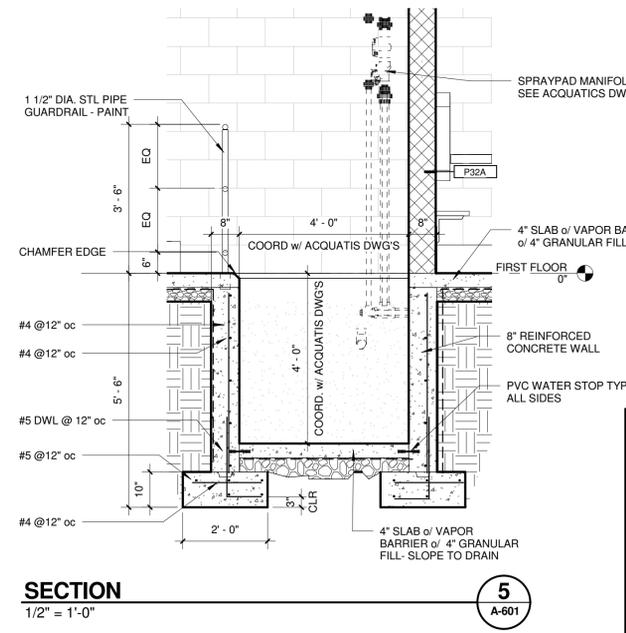


DOOR HEAD INT. - HM @ CMU
1 1/2" = 1'-0"

HEAD DETAIL EXT. HM @ BRICK
1 1/2" = 1'-0"

DOOR JAMB EXT. - HM @ BRICK o/CMU
1 1/2" = 1'-0"

FROST SLAB / DOOR THRESHOLD DETAIL
1 1/2" = 1'-0"



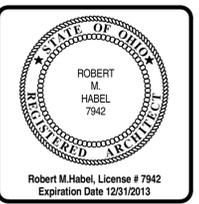
SECTION
1/2" = 1'-0"

ROOM NUMBER	ROOM NAME	FLOOR FINISH	BASE FINISH	WALLS				CEILING		COMMENTS
				NORTH	SOUTH	EAST	WEST	FINISH	HEIGHT	
158	GIRLS LOCKER	EXIST	RB-1 *	-	-	-	P-1	EXIST	-	* BASE AT NEW WALL
159	GIRLS TOILETS/ SHOWERS	CT-1, CT-2	CTB-1	P-2	WT-1 / P-2	WT-1 / P-2	WT-1 / P-2	ACT-1	9'-4"	
160	BOXING ROOM	EXIST	RB-1 *	-	-	-	P-	EXIST	-	* BASE AT NEW WALL
161A	UTILITY/ STORAGE	SEALED CONC	RB-1	P-1	P-1	P-1	P-1	EXPOSED	-	
161B	FAMILY CHANGING	ICC-1	CTB-2	P-3	P-3	P-3	P-3	ACT-1	9'-4"	
161C	FAMILY CHANGING / SHOWER	ICC-1	CTB-2	P-3	P-3	P-3	P-3	ACT-1	9'-4"	
162	STORAGE	VCT-1	RB-1	P-1	P-1	P-1	P-1	ACT-1	9'-4"	
165	BOYS TOILETS/ SHOWERS	CT-1, CT-2	CTB-1	WT-1 / P-2	WT-1 / P-2	P-2 *	WT-1 / P-2 *	ACT-1	9'-4"	

FINISH LEGEND

<p>FLOORING</p> <p>CT-1 PORCELAIN TILE MANUFACTURER: CROSSVILLE STYLE: COLOR BLOX COLOR: A1103 SLINKY FINISH: CROSS-SHEEN (UPS) SIZE: 6" x 6" x 3/8" CONTACT: JOHN TOROK P: 330-727-7299 GROUT MFR.: LATICRETE TYPE: SPECTRA LOCK PRO GROUT COLOR: 89 SMOKE GREY GROUT WIDTH: 3/16"</p> <p>CT-2 PORCELAIN TILE MANUFACTURER: CROSSVILLE STYLE: COLOR BLOX MOSAICS COLOR: A1103 SLINKY FINISH: CROSS-SHEEN (UPS) SIZE: 3" x 3" x 1/4" (12" x 12" DOT MOUNTED SHEET) CONTACT: JOHN TOROK P: 330-727-7299 GROUT MFR.: LATICRETE TYPE: SPECTRA LOCK PRO GROUT COLOR: 89 SMOKE GREY GROUT WIDTH: 3/16"</p> <p>VCT-1 VINYL COMPOSITION TILE MANUFACTURER: ARMSTRONG STYLE: IMPERIAL TEXTURE STANDARD EXCELON COLOR: 51908 PEWTER SIZE: 12" x 12" x 1/8" CONTACT: LORI GABOR P: 216-401-8195</p> <p>ICC-1 INTEGRAL COLOR CONCRETE MANUFACTURER: INCRETE SYSTEMS STYLE: COLOR CRETE COLOR: PUEBLO CC5954 FINISH: SEALED WITH INCRETE'S ACRYLIC SEALER CONTACT: SCOTT LOWE P: 800-752-4626</p>	<p>BASE</p> <p>CTB-1 CERAMIC TILE BASE MANUFACTURER: AMERICAN OLEAN STYLE: BRIGHT & MATTE GROUP 1 COLOR: DESIGNER WHITE 0061 FINISH: MATTE SIZE: 6" x 6" COVE BASE CONTACT: JOHN TOROK P: 330-727-7299 GROUT MFR.: LATICRETE TYPE: SPECTRA LOCK PRO COLOR: 44 BRIGHT WHITE GROUT WIDTH: 1/16"</p> <p>CTB-2 CERAMIC TILE BASE MANUFACTURER: CROSSVILLE STYLE: COLOR BLOX COLOR: A1118 CHOCOLATE CANDY FINISH: CROSS-SHEEN (UPS) SIZE: 6" x 12" COVE BASE CONTACT: JOHN TOROK P: 330-727-7299 GROUT MFR.: LATICRETE TYPE: SPECTRA LOCK PRO COLOR: 66 CHESTNUT BROWN GROUT WIDTH: 3/16"</p> <p>RB-1 RUBBER BASE MANUFACTURER: JOHNSONITE COLOR: 32 PEBBLE SIZE: 4" H. WITH TOE CONTACT: LAURIE BAATZ P: 440-313-8238</p>	<p>WALLS</p> <p>WT-1 GLAZED WALL TILE MANUFACTURER: AMERICAN OLEAN STYLE: BRIGHT & MATTE GROUP 1 COLOR: DESIGNER WHITE 0061 FINISH: MATTE SIZE: 6" x 6" x 5/16" CONTACT: JOHN TOROK P: 330-727-7299 GROUT MFR.: LATICRETE TYPE: SPECTRA LOCK PRO GROUT COLOR: 44 BRIGHT WHITE GROUT WIDTH: 1/16"</p>	<p>PAINT</p> <p>P-1 MANUFACTURER: BENJAMIN MOORE COLOR: DISTANT GRAY OC-68 FINISH: CONTACT: DOROTHY HAZINSKI P: 330-353-3850</p> <p>P-2 MANUFACTURER: BENJAMIN MOORE COLOR: SILVER SATIN OC-26 FINISH: CONTACT: DOROTHY HAZINSKI P: 330-353-3850</p> <p>P-3 MANUFACTURER: BENJAMIN MOORE COLOR: DESERTED ISLAND OC-99 FINISH: CONTACT: DOROTHY HAZINSKI P: 330-353-3850</p>	<p>CEILING</p> <p>ACT-1 ACOUSTICAL TILE CEILING MANUFACTURER: ARMSTRONG PRODUCT: CERAMAGUARD FINE FISSURED - PERFORATED, SQUARE LAY-IN (MED. TEXTURE), ITEM NO. 608 SIZE: 2' x 4' x 5/8" COLOR: WHITE GRID: PRELUDE XL 15/16" EXPOSED TEE SYSTEM MAIN RUNNERS: ITEM NO. 7300, WHITE CROSS RUNNERS: ITEM NO. XL7348, WHITE AND XL7328, WHITE WALL MOLDING: 7800 HEMMED ANGLE MOLDING, WHITE CONTACT: DENNIS LUST P: 330-345-6618</p>
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THE CITY OF
CANTON
WILLIAM J. HEAD II, MAYOR
WATER PARK FACILITY PROJECT AT EDWARD "PEEL" COLEMAN CENTER
1400 Sherrick Road S.E. - Canton, Ohio 44707

March 7, 2013
ISSUED FOR BID

Sheet Issue Date:	
Designed:	
Drafted:	
Checked:	
Revisions:	
No.	Date Description

DOOR SCHEDULE AND DETAILS - ROOM FINISH SCHEDULE & LEGEND

A-601

11044



DESIGN DATA		
	UNITS	POOL
SPLASHPAD WATER SURFACE AREA	SQ FT	7,367
PERIMETER	FT.	364'-3"
MAXIMUM CONSUMPTION	GPM	130

- GENERAL SPRAYGROUND NOTES**
- ◆ DENOTES SPRAYGROUND SLAB ELEVATION FROM DECK LEVEL.
 - SPRAYGROUND FINISH TO BE MEDIUM BROOM FINISHED CONCRETE.
 - ALL PROPRIETARY NAMES MENTIONED ARE TO DESIGNATE PERFORMANCE STANDARDS EQUIVALENT PRODUCTS MUST BE SUBMITTED FOR APPROVAL.
 - REFER TO SITE LAYOUT PLAN FOR CONCRETE WALKWAY LAYOUTS.
 - REFER TO UTILITY PLAN FOR DECK DRAINS & HOSE BIBS LOCATIONS.
 - ALL SURFACE WATER WITHIN THE SPRAYGROUND FOOTPRINT SHALL DRAIN TOWARD MAIN DRAIN.
 - ELECTRICAL INSPECTOR SHALL APPROVE BONDING OF REINFORCING, SPRAYGROUND FITTINGS AND CONDUIT PRIOR TO THE APPROVAL OF REINFORCING STEEL FOR POURING OF CONCRETE.
 - SPRAYGROUND DESIGN IS FOR A SINGLE-USE OF NON-RECIRCULATING SYSTEM.
 - ALL PIPING TO SLOPE 1/8" PER FOOT FROM SPRAYGROUND TO MANIFOLD WINTERIZATION PIT IN MECHANICAL ROOM.
 - ANY METALLIC PORTION OF A SPRAY FEATURE NEEDS TO BE EPOXY COATED STAINLESS STEEL.

SHEET INDEX	
SHEET	DESCRIPTION
SP0.0	SPRAYGROUND REFERENCE PLAN
SP1.0	SPRAYGROUND PLAN
SP1.1	SPRAYGROUND DETAILS
SP1.2	SPRAYGROUND DETAILS
SP2.0	SPRAYGROUND LOCATION POINT PLAN
SP3.0	SPRAYGROUND GRAVITY PIPING PLAN
SP3.1	SPRAYGROUND RETURN PIPING PLAN
SP4.0	SPRAYGROUND MECHANICAL ROOM PLAN & SECTIONS
SP4.1	SPRAYGROUND MECHANICAL DETAILS

ALTERNATES

ALTERNATE SP1 - ALL WORK ASSOCIATED WITH 2-5 YEAR OLD SPRAYGROUND AREA, EXTENT AS INDICATED ON THE DRAWINGS. BASE BID TO INCLUDE STUB-OUT FOR WATER FROM BUILDING, SEE PLANS FOR LIMITS.

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THE CITY OF CANTON
WILLIAM J. HEAD III, MAYOR
EDWARD 'PEEL' COLEMAN CENTER - SPARY PARK
1400 Sherrick Road S.E. - Canton, Ohio 44707

March 7, 2013
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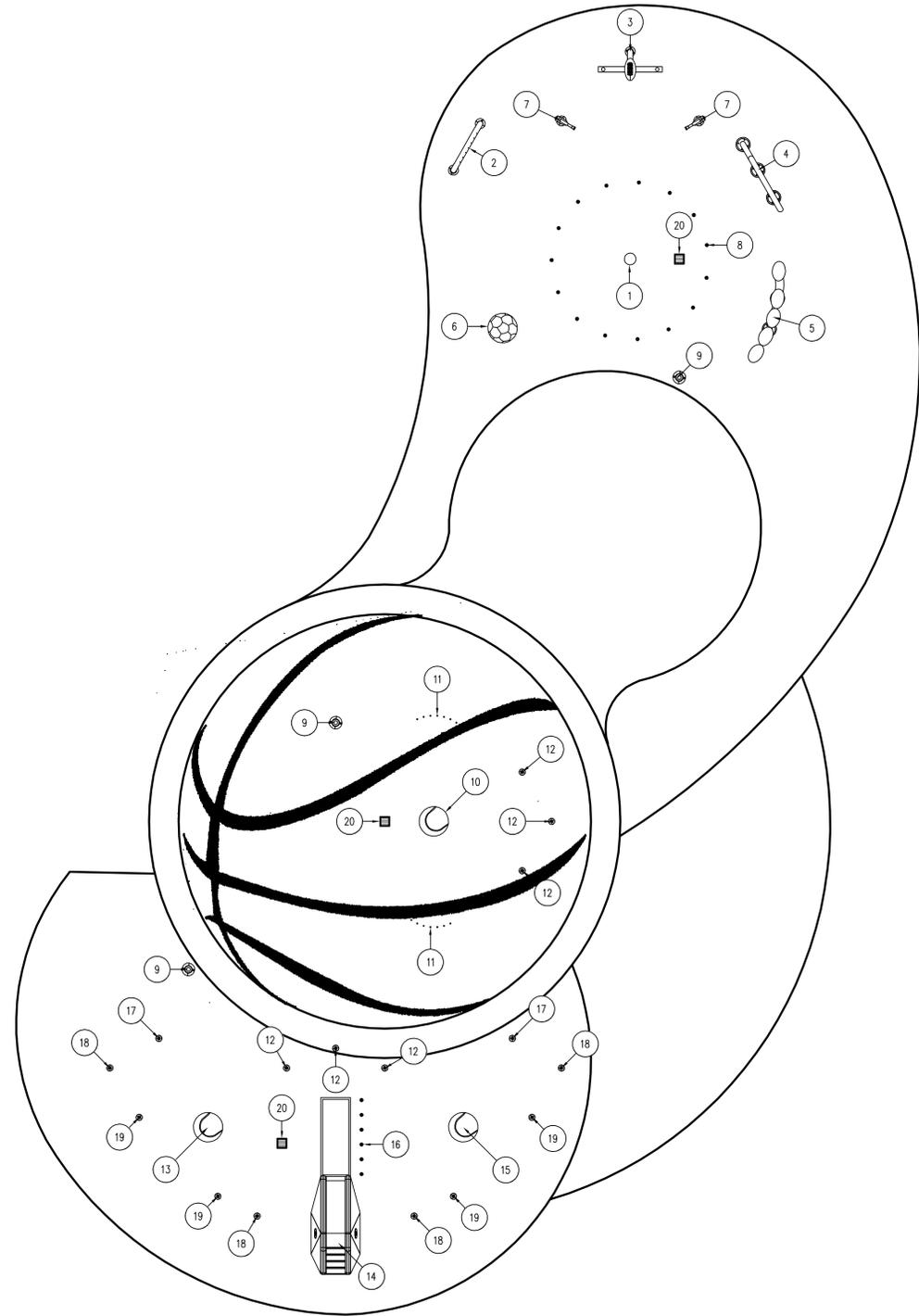
Sprayground Reference Plan

SP0.0

11044

1
SP0.0
3/32" = 1'-0"
03/12/12
SPRAYGROUND REFERENCE PLAN



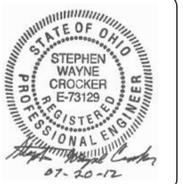


1 SPRAYGROUND PLAN
 SP1.0 1/8" = 1'-0" 03/22/12

POOL EQUIPMENT LEGEND

LEGEND	ID	ITEM
	1	BALL BAT REFER: 1/SP1.1
	2	CROSSBAR JET REFER: 2/SP1.1
	3	GOAL POST REFER: 3/SP1.1
	4	TENNIS RACQUET REFER: 4/SP1.1
	5	BASEBALL GLOVE REFER: 5/SP1.1
	6	SOCCER BALL REFER: 6/SP1.1
	7	WATER FUN CANNONS REFER: 7/SP1.1
	8	GIANT CIRCLE TIME REFER: 8/SP1.1
	9	ACTIVATION BOLLARD REFER: 9/SP1.1
	10	BASKETBALL REFER: 10/SP1.1
	11	CURVED POP JETS REFER: 11/SP1.1
	12	MINI POPKORN JETS REFER: 12/SP1.1
	13	BASEBALL REFER: 13/SP1.2
	14	AQUA RUN SLIDE REFER: 2/SP1.2
	15	TENNIS BALL REFER: 3/SP1.2
	16	TUNNEL ARCH REFER: 4/SP1.2
	17	MINI FOAM GEYSERS REFER: 5/SP1.2
	18	UPSTREAM JETS REFER: 6/SP1.2
	19	SLANT JETS REFER: 7/SP1.2
	20	MAIN DRAIN REFER: 1/SP4.1

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THE CITY OF
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 1400 Sherrick Road S.E. - Canton, Ohio 44707

March 7, 2013
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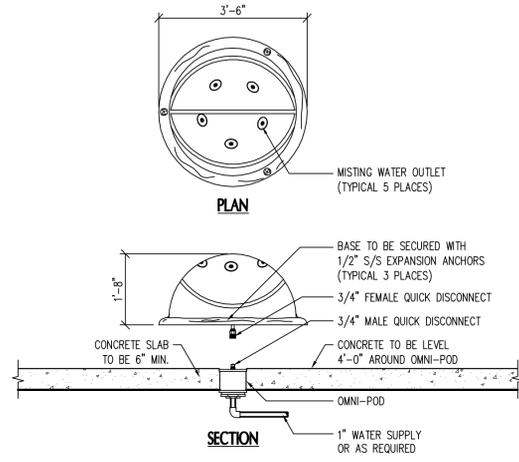
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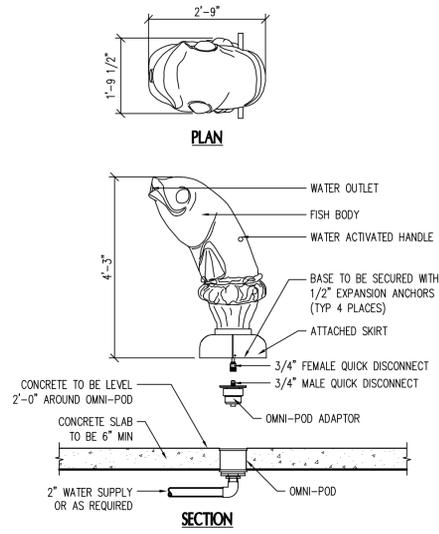


Sprayground Plan

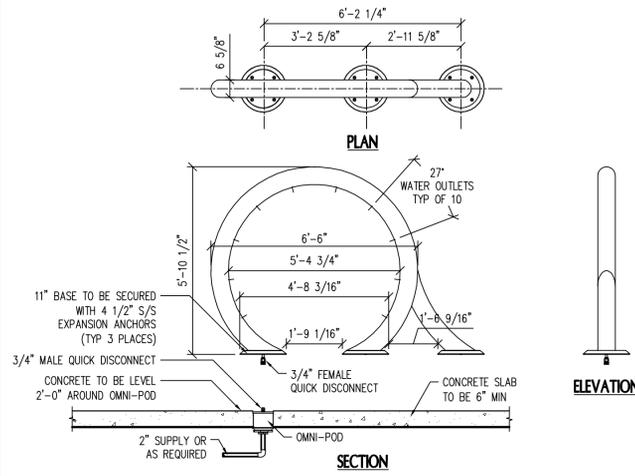
SP1.0
 11044



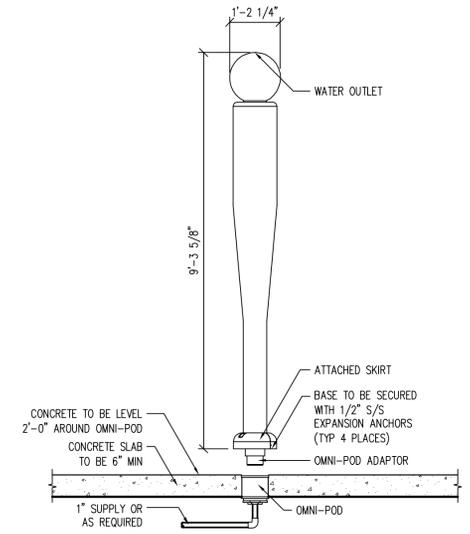
10 MISTING BASKETBALL
SP1.1 1/2" = 1'-0" 03/22/12



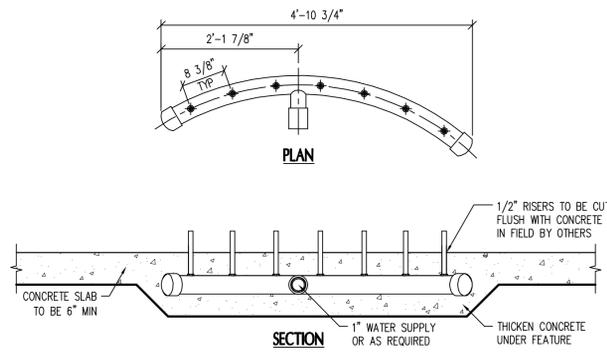
7 WATER FUN CANNONS
SP1.1 1/2" = 1'-0" 03/22/12



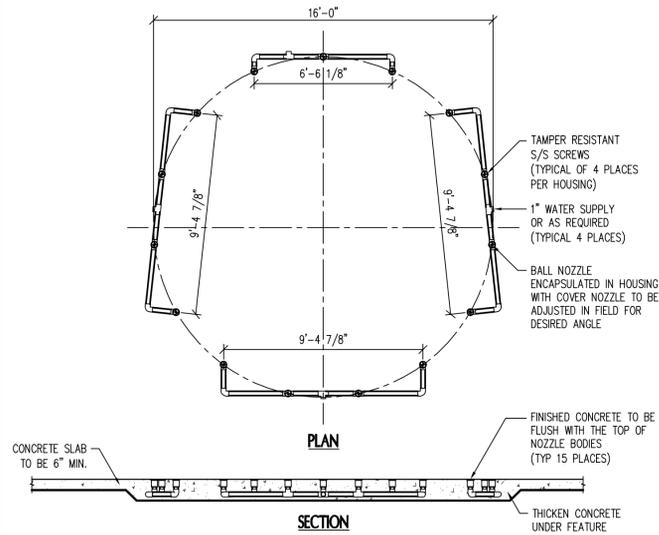
4 TENNIS RACQUET
SP1.1 3/8" = 1'-0" 03/22/12



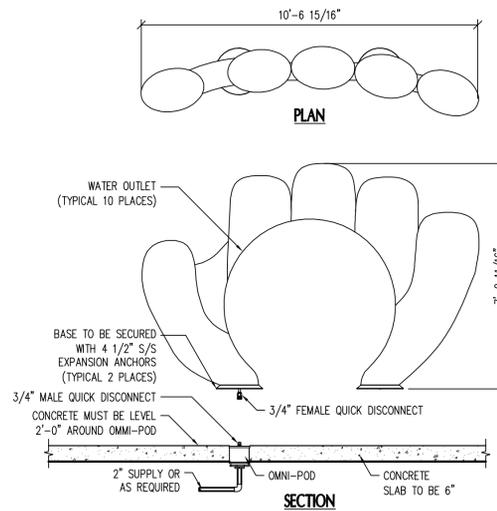
1 BALL BAT
SP1.1 1/2" = 1'-0" 03/22/12



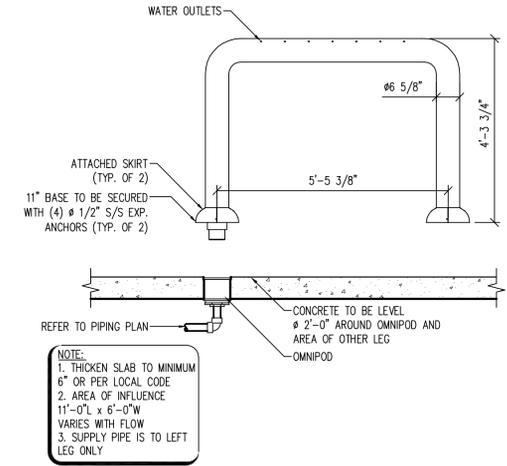
11 CURVED POP JETS
SP1.1 3/4" = 1'-0" 03/22/12



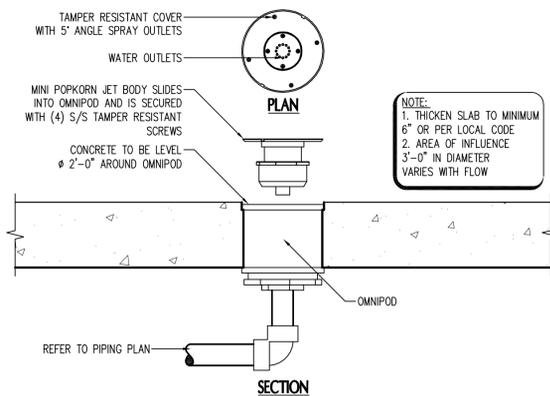
8 GIANT CIRCLE TIME
SP1.1 1/4" = 1'-0" 03/22/12



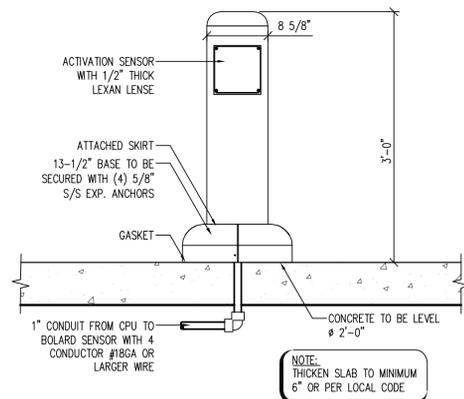
5 BASEBALL GLOVE
SP1.1 3/8" = 1'-0" 03/22/12



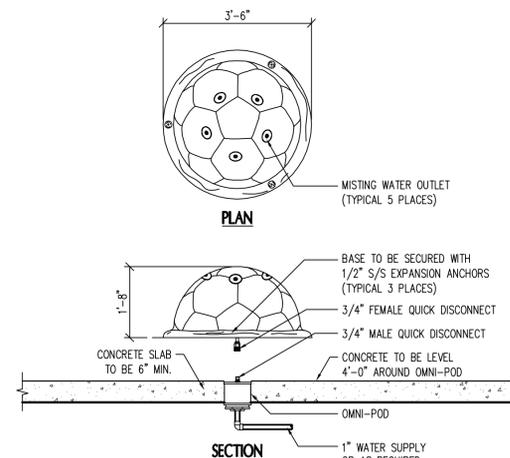
2 CROSSBAR JET
SP1.1 1/2" = 1'-0" 03/22/12



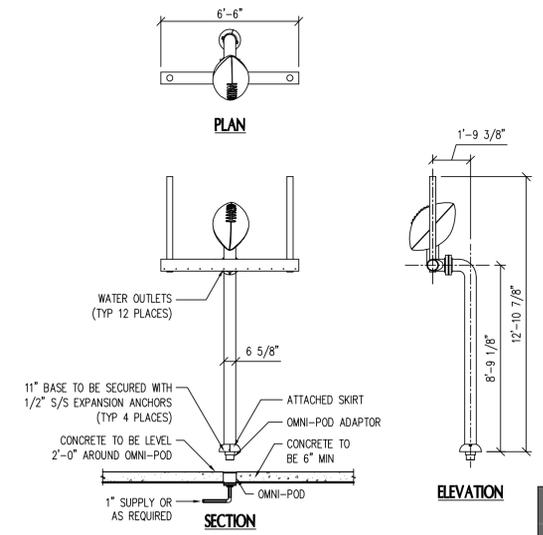
12 MINI POPKORN JETS
SP1.1 1 1/2" = 1'-0" 03/22/12



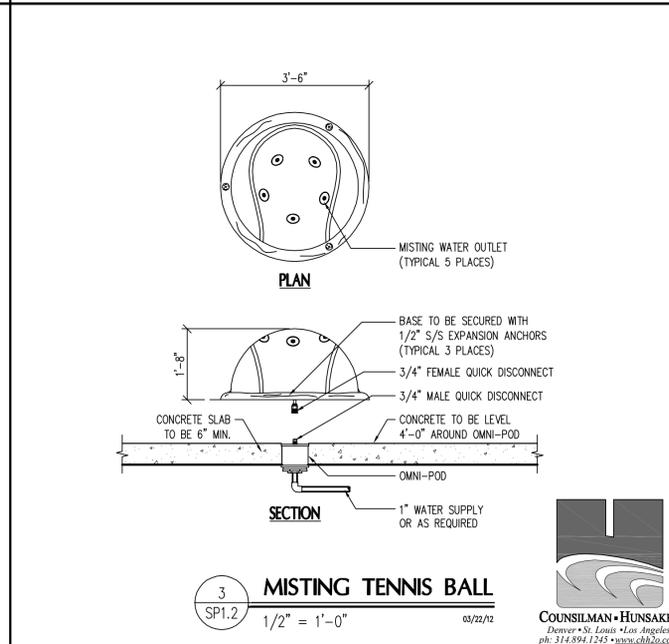
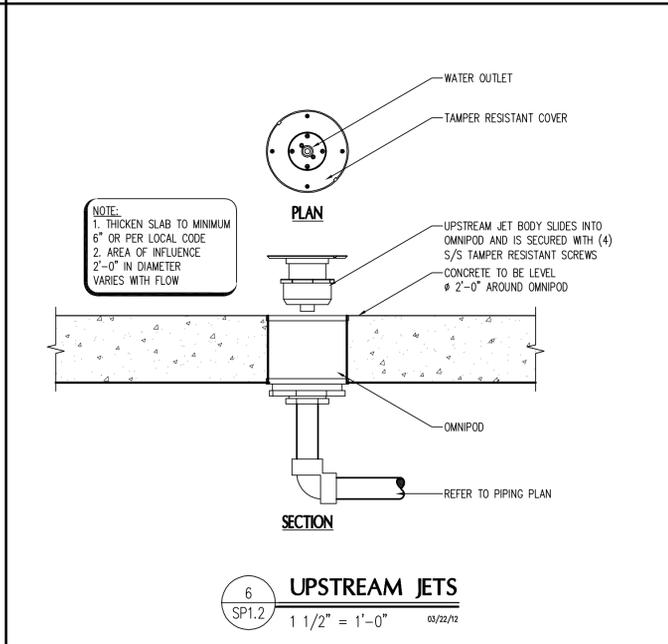
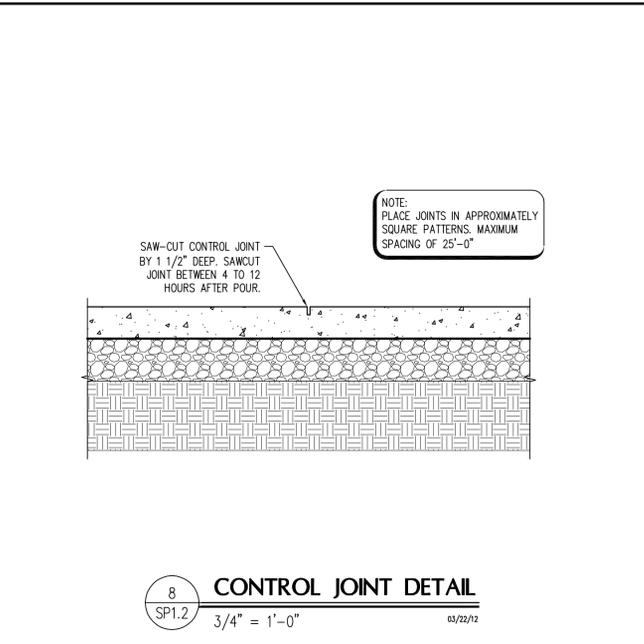
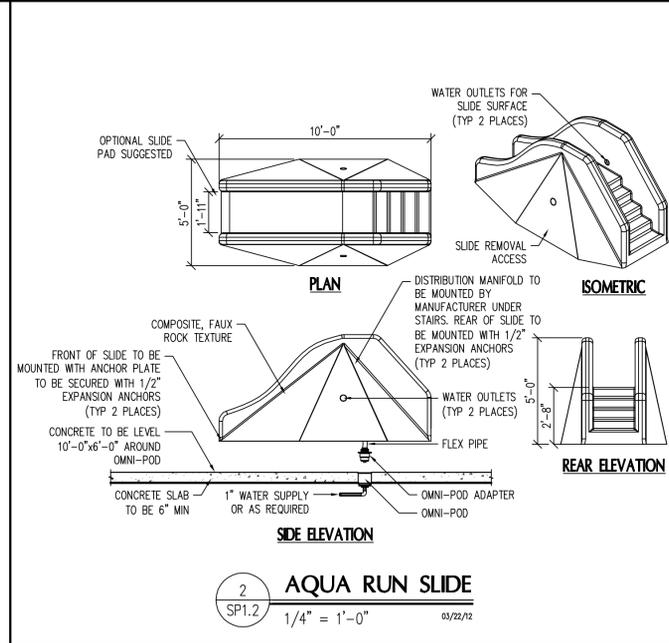
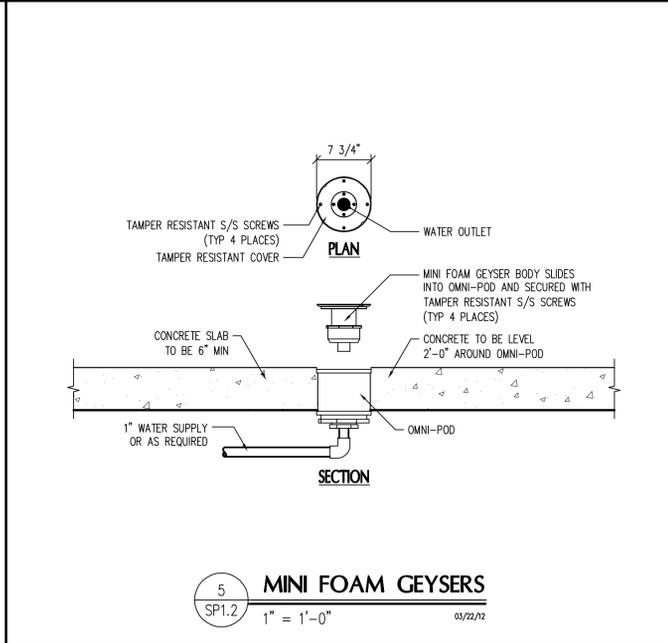
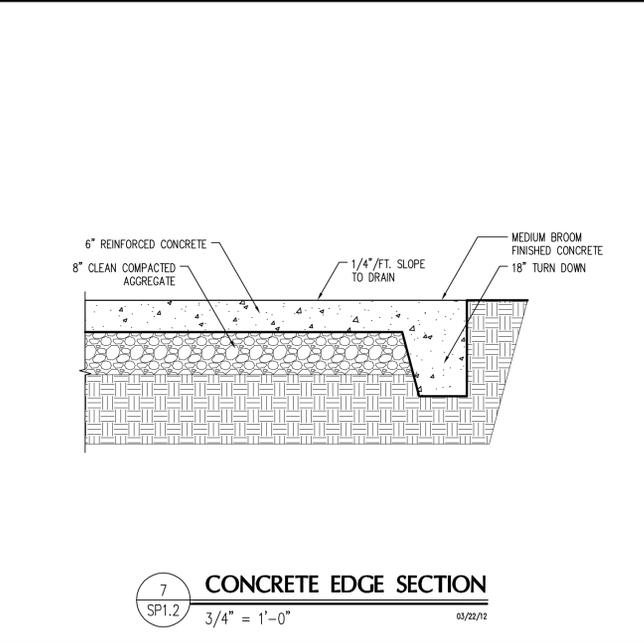
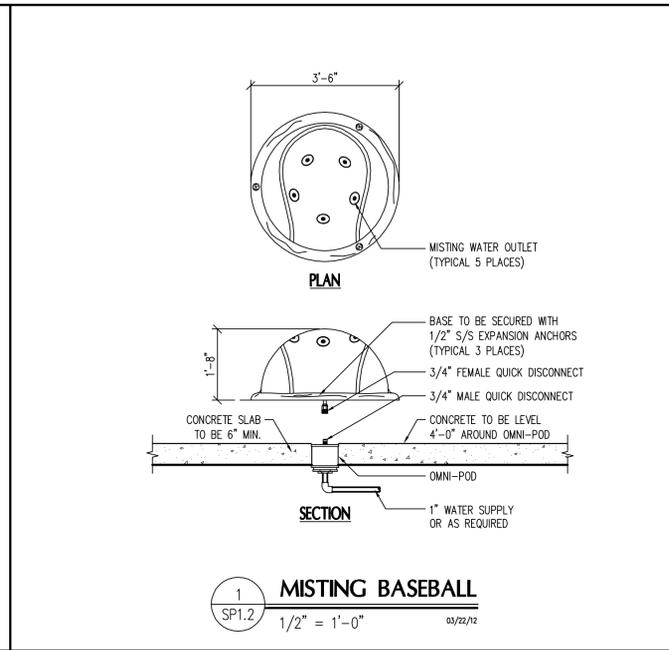
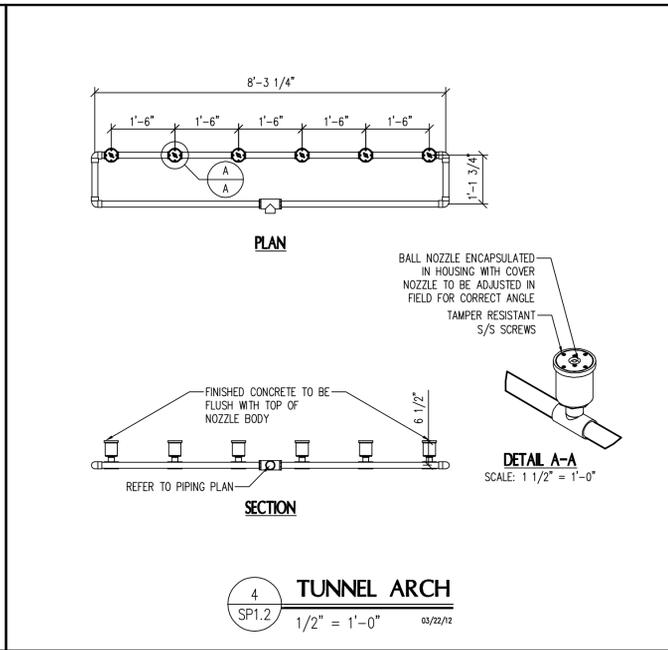
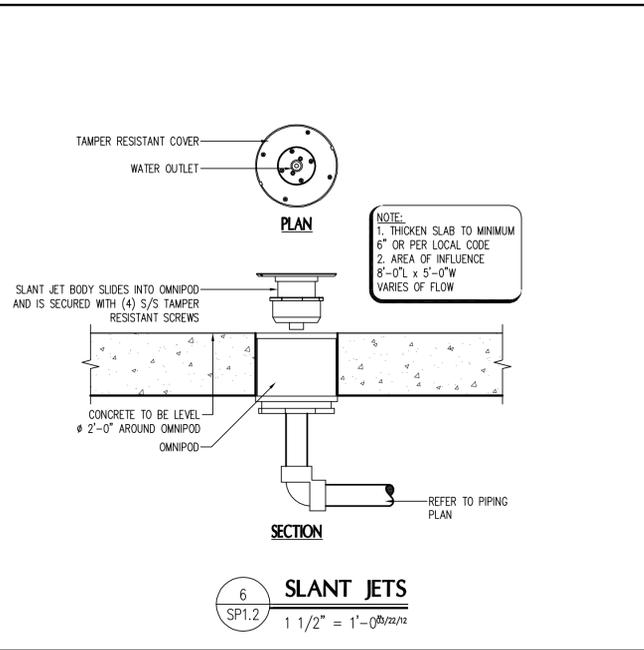
9 ACTIVATION BOLLARD
SP1.1 1" = 1'-0" 03/22/12



6 MISTING SOCCER BALL
SP1.1 1/2" = 1'-0" 03/22/12



3 GOAL POST
SP1.1 1/4" = 1'-0" 03/22/12



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LP#	X	Y	DESCRIPTION
1	79'-1 3/4"	-108'-1 3/4"	AQUA RUN SLIDE
2	71'-1 3/4"	-102'-3"	UPSTREAM JET
3	87'-1 3/4"	-102'-3"	UPSTREAM JET
4	67'-1 3/4"	-100'-3"	SLANT JET
5	91'-1 3/4"	-100'-3"	SLANT JET
6	66'-1 3/4"	-93'-3"	MISTING BASEBALL
7	92'-1 3/4"	-93'-3"	MISTING TENNIS BALL
8	59'-1 3/4"	-92'-3"	SLANT JET
9	99'-1 3/4"	-92'-3"	SLANT JET
10	56'-1 3/4"	-87'-3"	UPSTREAM JET
11	102'-1 3/4"	-87'-3"	UPSTREAM JET
12	61'-1 3/4"	-84'-3"	MINI FOAM GEYSER
13	97'-1 3/4"	-84'-3"	MINI FOAM GEYSER
14	81'-9 1/2"	-98'-0"	TUNNEL ARCH
15	81'-9 1/2"	-96'-6"	TUNNEL ARCH
16	81'-9 1/2"	-95'-0"	TUNNEL ARCH
17	81'-9 1/2"	-93'-6"	TUNNEL ARCH
18	81'-9 1/2"	-92'-0"	TUNNEL ARCH
19	81'-9 1/2"	-90'-6"	TUNNEL ARCH
20	74'-1 3/4"	-87'-3"	MINI POPKORN JET
21	84'-1 3/4"	-87'-3"	MINI POPKORN JET
22	79'-1 3/4"	-85'-3"	MINI POPKORN JET
23	64'-1 3/4"	-77'-3"	ACTIVATION BOLLARD
24	73'-8"	-94'-10 1/2"	CENTER OF MAIN DRAIN
25	86'-10 1/4"	-72'-3"	CURVED POP JET
26	87'-5 1/2"	-72'-7"	CURVED POP JET
27	88'-1 1/2"	-72'-10"	CURVED POP JET
28	88'-9 3/4"	-72'-11 1/4"	CURVED POP JET
29	89'-6"	-72'-11 1/4"	CURVED POP JET
30	90'-2 1/4"	-72'-10"	CURVED POP JET
31	90'-10"	-72'-7"	CURVED POP JET
32	87'-5 1/2"	-51'-10 3/4"	CURVED POP JET
33	88'-1 1/4"	-51'-7 3/4"	CURVED POP JET
34	88'-9 1/2"	-51'-6 1/2"	CURVED POP JET
35	89'-6"	-51'-6 1/2"	CURVED POP JET
36	90'-2 1/4"	-51'-7 3/4"	CURVED POP JET
37	90'-10"	-51'-10 3/4"	CURVED POP JET
38	91'-5 1/4"	-52'-3"	CURVED POP JET
39	89'-1 3/4"	-62'-3"	MISTING BASKETBALL
40	98'-1 3/4"	-67'-3"	MINI POPKORN JET
41	101'-1 3/4"	-62'-3"	MINI POPKORN JET
42	98'-1 3/4"	-57'-3"	MINI POPKORN JET
43	79'-1 3/4"	-52'-3"	ACTIVATION BOLLARD
44	84'-1 3/4"	-62'-3"	CENTER OF MAIN DRAIN
45	114'-1 3/4"	-17'-3"	ACTIVATION BOLLARD
46	96'-1 3/4"	-12'-3"	MISTING SOCCER BALL
47	109'-10 3/4"	-13'-4 1/2"	GIANT CIRCLE TIME
48	106'-7 1/4"	-13'-0"	GIANT CIRCLE TIME
49	103'-8 3/4"	-11'-3 3/4"	GIANT CIRCLE TIME
50	101'-9 3/4"	-8'-7 1/4"	GIANT CIRCLE TIME
51	101'-1 3/4"	-5'-4 1/4"	GIANT CIRCLE TIME
52	101'-10 1/4"	-2'-1 1/4"	GIANT CIRCLE TIME
53	103'-10"	6 3/4"	GIANT CIRCLE TIME
54	106'-8 3/4"	2'-2 1/4"	GIANT CIRCLE TIME
55	110'-0 1/2"	2'-6 1/4"	GIANT CIRCLE TIME
56	113'-2 1/4"	1'-5 1/2"	GIANT CIRCLE TIME
57	115'-7 1/2"	-9 1/2"	GIANT CIRCLE TIME
58	116'-11 1/2"	-3'-10"	GIANT CIRCLE TIME
59	116'-11"	-7'-1 3/4"	GIANT CIRCLE TIME
60	115'-6 1/2"	-10'-2"	GIANT CIRCLE TIME
61	113'-0 3/4"	-12'-4 1/2"	GIANT CIRCLE TIME
62	109'-1 3/4"	-5'-3"	BALL BAT
63	124'-2"	-9'-3 1/4"	BASEBALL GLOVE
64	123'-3 3/4"	-12'-4 1/4"	BASEBALL GLOVE
65	91'-1 3/4"	3'-9"	CROSSBAR JET
66	93'-10 1/2"	8'-5 3/4"	CROSSBAR JET
67	102'-1 3/4"	8'-9"	WATER FUN CANNON
68	116'-1 3/4"	8'-9 1/4"	WATER FUN CANNON
69	109'-1 3/4"	15'-9"	GOAL POST
70	120'-7 3/4"	6'-4 1/4"	TENNIS RACQUET
71	122'-1 3/4"	3'-9"	TENNIS RACQUET
72	123'-9 1/4"	11 3/4"	TENNIS RACQUET

1 SPRAYGROUND LOCATION POINT PLAN
 SP2.0 3/32" = 1'-0" 01/12/12

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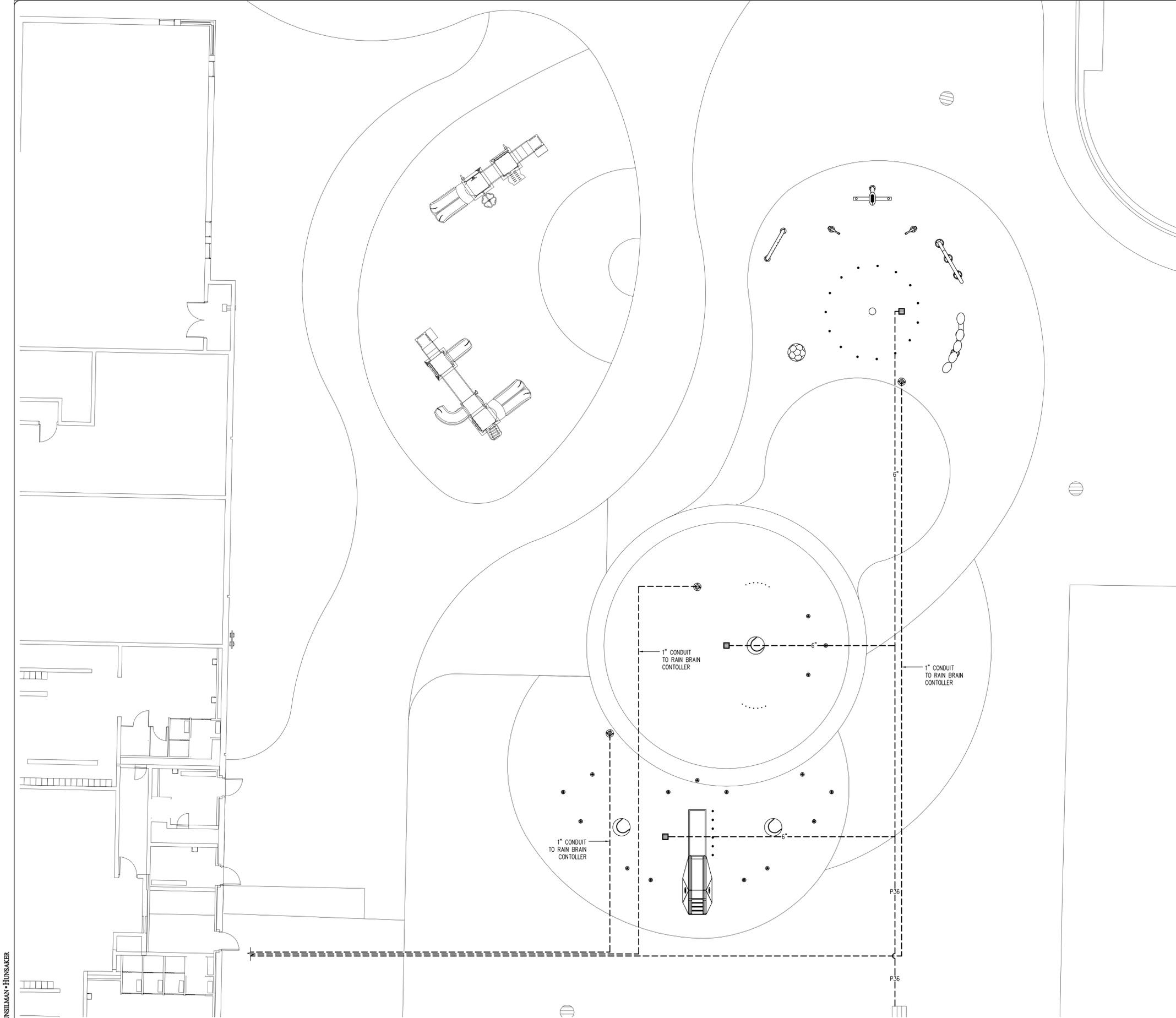
Revisions:
 No. Date Description

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**Sprayground
 Location
 Point Plan**

SP2.0
 11044





GENERAL PIPING NOTES

1. PROVIDE ALL MATERIALS AND EQUIPMENT AND PERFORM ALL LABOR REQUIRED TO INSTALL COMPLETE AND OPERATIONAL PIPING SYSTEMS AS INDICATED ON THE DRAWINGS, AS SPECIFIED AND AS REQUIRED BY CODE.
2. PIPE SIZES INDICATED ARE NOMINAL, I.P.S.
3. UNLESS OTHERWISE NOTED, ALL OVERHEAD PIPING SHALL BE TIGHT TO UNDERSIDE OF STRUCTURE OR SLAB.
4. ALL BALANCING VALVES AND BUTTERFLY VALVES SHALL BE PROVIDED WITH POSITION INDICATORS AND MAXIMUM ADJUSTABLE STOPS (MEMORY STOPS).
5. ALL VALVES SHALL BE INSTALLED SO THAT THE VALVE REMAINS IN SERVICE WHEN THE EQUIPMENT OR PIPING ON THE EQUIPMENT SIDE OF THE VALVE IS REMOVED.
6. INSTALL ALL PIPING WITHOUT FORCING OR SPRINGING.
7. ALL PIPING WORK SHALL BE COORDINATED WITH ALL TRADES AND SITE CONDITIONS, OFFSETS, EXPANSION LOOPS, OR TRANSITIONS IN PIPING AROUND OBSTRUCTIONS SHALL BE PROVIDED AT NO ADDITIONAL COST TO THE OWNER.
8. ALL PIPING INDICATED SHALL BE CONSIDERED DIAGRAMMATIC.
9. ALL SPRAYGROUND PIPING ROUTED BELOW THE PAD SHALL BE ALL SCHEDULE 80 PVC, UNLESS OTHERWISE NOTED. REFER: 6/SP4.1.
10. ALL UNDERGROUND OR EXPOSED PIPING SHALL BE SCHEDULE 80 PVC, UNLESS OTHERWISE NOTED. CONTRACTOR SHALL REFER TO PLANS AND SPECIFICATIONS FOR ANY SPECIFIC REQUIREMENTS REGARDING PLACEMENT AND BACKFILLING OF BELOW GRADE PIPE.
11. ALL DIMENSIONS INDICATED FROM THE FINISH WALL SURFACE AND DO NOT ACCOUNT FOR ANY VARIATIONS IN EITHER GRADE OR SLOPE DISTANCES.
12. ALL PIPE TEES TO BE SIZED FOR LARGEST PIPE CONNECTION.

PIPING WINTERIZATION NOTES

1. ALL SPRAYGROUND PIPING MUST HAVE THE CAPABILITY TO BE DRAINED FOR WINTERIZATION.
2. ALL SPRAYGROUND GRAVITY PIPING SHALL BE INSTALLED WITH A CONSTANT SLOPE TO THE STORM SEWER.
3. ALL FEATURE RETURN PIPING SHALL SLOPE BACK TO THE POOL MECHANICAL ROOM. A WINTERIZATION TAP AND VALVE SHALL BE PROVIDED ON PIPING ALLOWING THE ABILITY FOR ALL PIPING TO BE COMPLETELY DRAINED.

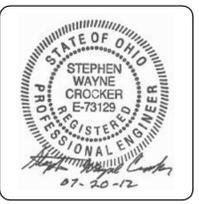
PIPE SCHEDULE

ID	DESCRIPTION
P1	1" FROM MANIFOLD TO CROSSBAR JET
P2	1" FROM MANIFOLD TO WATER FUN CANNON
P3	1" FROM MANIFOLD TO GOAL POST
P4	1" FROM MANIFOLD TO WATER FUN CANNON
P5	1" FROM MANIFOLD TO TENNIS RACQUET
P6	1" FROM MANIFOLD TO GIANT CIRCLE TIME
P7	1" FROM MANIFOLD TO GIANT CIRCLE TIME
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P34	1" FROM MANIFOLD TO UPSTREAM JET
P35	1" FROM MANIFOLD TO AQUA RUN SLIDE
P36	8" FROM SPRAYGROUND MAIN DRAINS TO SANITARY

PIPING LEGEND

LEGEND	QTY.	ITEM
COMPETITION POOL		
	3	MAIN DRAIN REFER: 1/SP4.1
	N/A	BELOW GRADE PIPING

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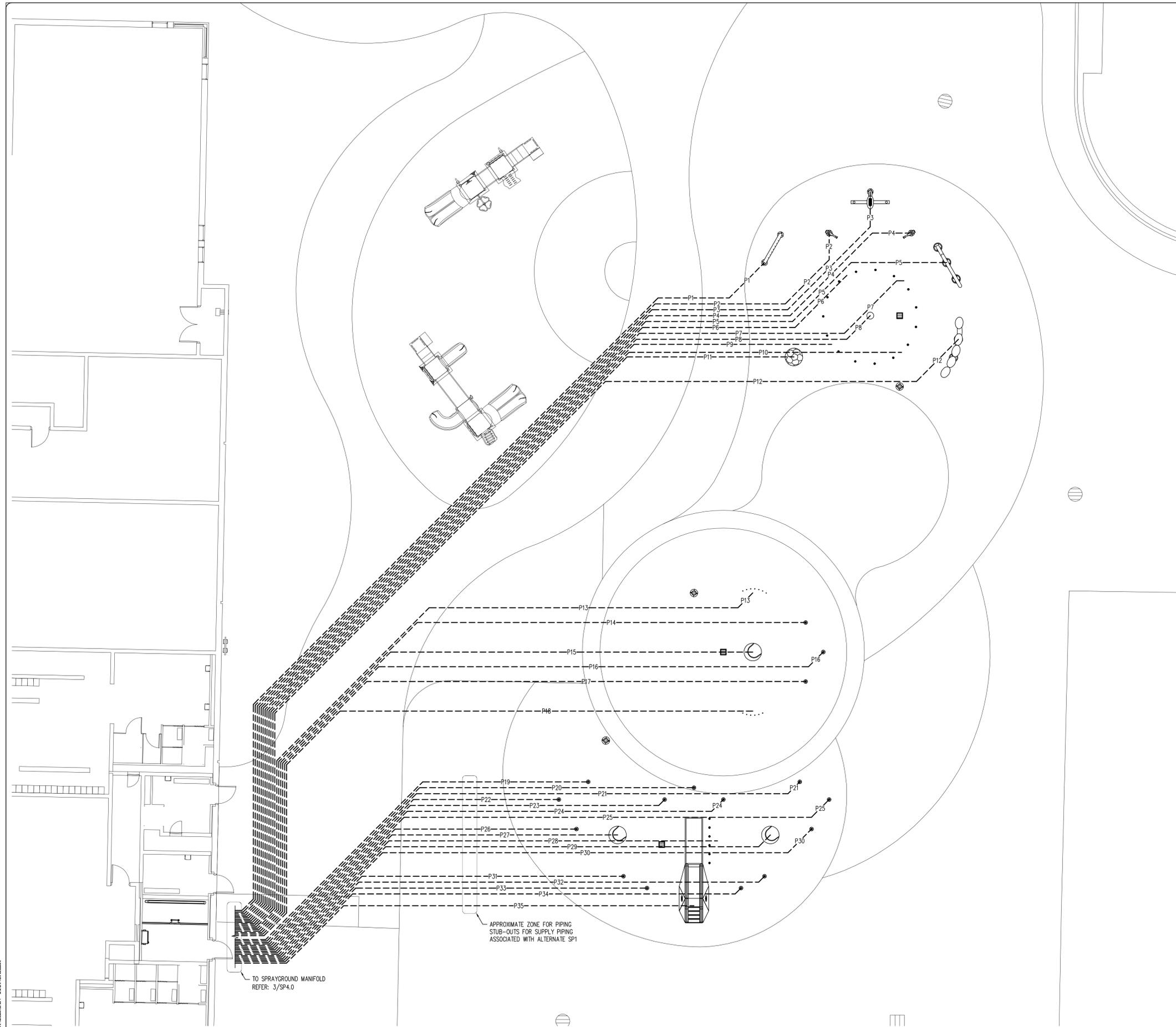


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Sprayground Gravity Piping Plan
SP3.0
11044





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PIPE SCHEDULE

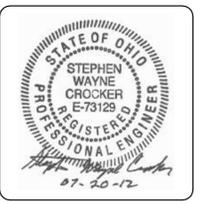
ID	DESCRIPTION
P1	1" FROM MANIFOLD TO CROSSBAR JET
P2	1" FROM MANIFOLD TO WATER FUN CANNON
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P35	1" FROM MANIFOLD TO AQUA RUN SLIDE
P36	8" FROM SPRAYGROUND MAIN DRAINS TO SANITARY

PIPING LEGEND

LEGEND	QTY.	ITEM
COMPETITION POOL		
	3	MAIN DRAIN REFER: 1/SP4.1
	N/A	BELOW GRADE PIPING

1 SPRAYGROUND FEATURE RETURN PIPING PLAN
 SP3.1 1/8" = 1'-0"
 03/22/12

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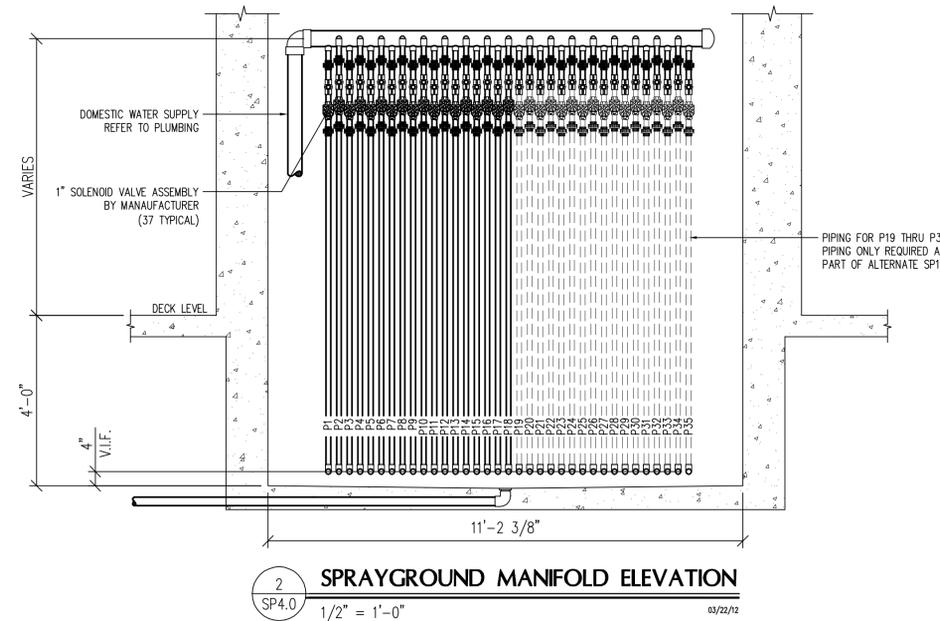
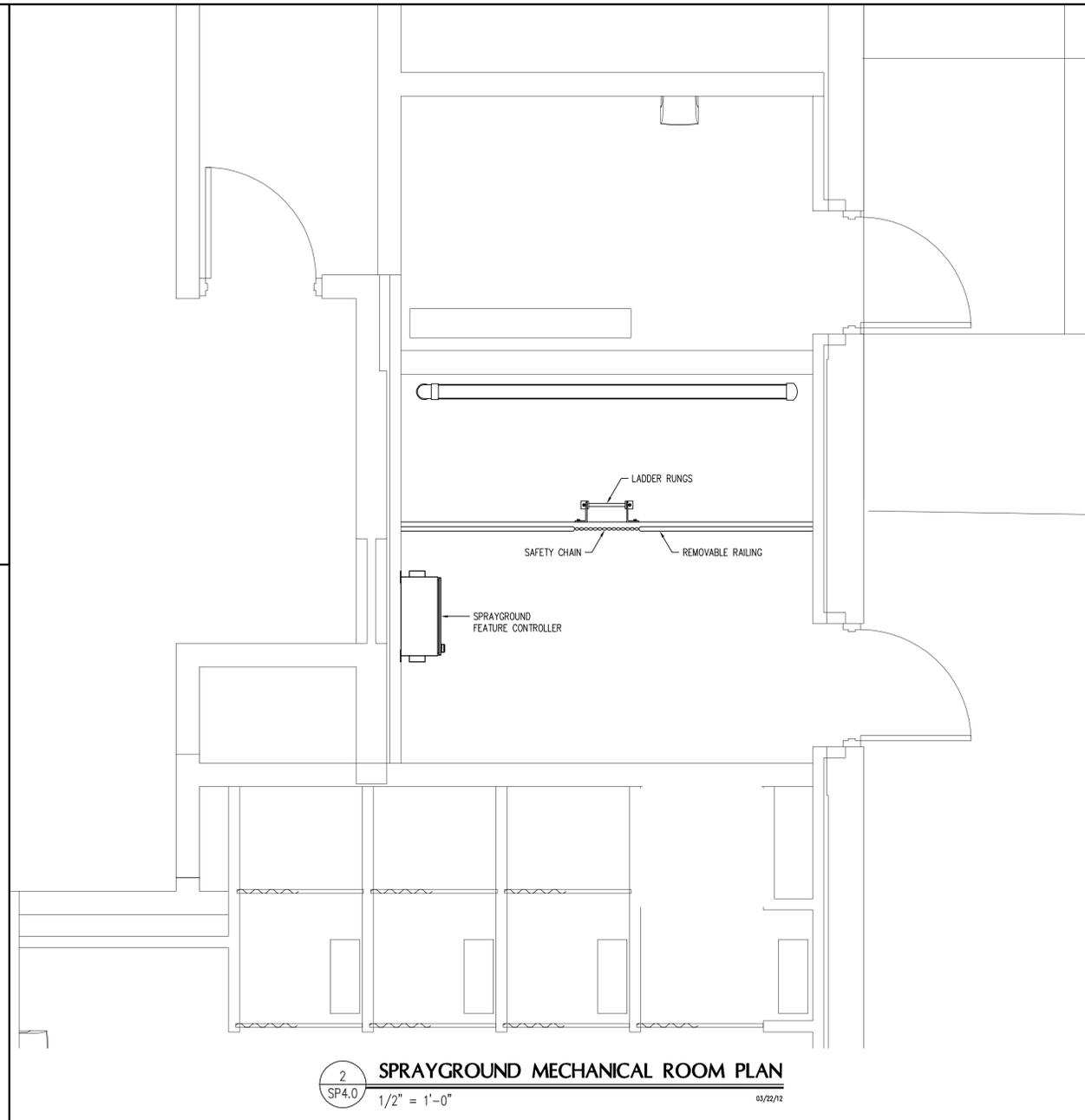
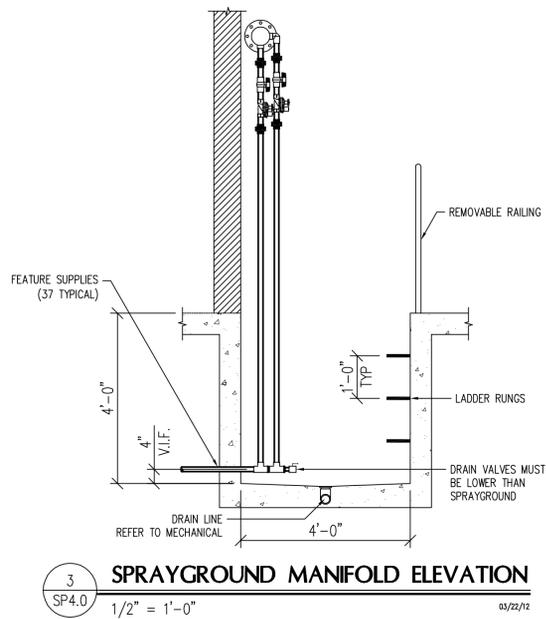
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Sprayground Return Piping Plan
SP3.1
 11044





GENERAL SPRAYGROUND MECHANICAL ROOM NOTES

- EQUIPMENT ROOM FLOOR MUST SLOPE 1/4" TO 1/2" TO FLOOR DRAINS.
- PROVIDE HOSE BIBBS FOR HOUSE CLEANING PURPOSES. REFER BUILDING MECHANICAL DRAWINGS.
- THE INSIDE SURFACES OF MANIFOLD WINTERIZATION PIT SHALL BE WATERPROOFED. REFER TO SPECIFICATION.
- VENTILATION OF SPRAYGROUND MECHANICAL ROOM PER LOCAL, STATE AND INTERNATIONAL MECHANICAL CODE MINIMUM. REFER TO MECHANICAL.
- THE FOLLOWING INFORMATION SHALL BE LAMINATED AND POSTED IN THE SPRAYGROUND MECHANICAL ROOM: VALVE REFERENCE CHART, MECHANICAL ROOM PLAN, SPRAYGROUND PIPING SCHEMATICS & SPRAYGROUND SYSTEMS SCHEMATICS.

PIPING

- MINIMUM 7" - 0" CLEARANCE BENEATH ALL OVERHEAD PIPING.
- INSTALL AND SUPPORT OVERHEAD AND VERTICAL PIPING PER SPECIFICATION REQUIREMENTS.
- LABEL AND IDENTIFY ALL PIPING IN COMPLIANCE WITH THE SPECIFICATIONS.
- ALL FLOW METERS SHALL BE SIZED TO MATCH THE PIPE ON WHICH IT IS INSTALLED.
- HYDROSTATICALLY TEST ALL PIPING AT 50 PSI FOR TWO HOURS AND MAINTAIN A PRESSURE OF 20 PSI IN ALL PIPING THROUGHOUT CONSTRUCTION. SECURE ALL FIXTURES PER SPECIFICATION REQUIREMENTS BEFORE HYDROSTATIC TEST.

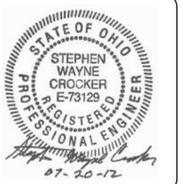
ELECTRICAL

- GFCI'S PROVIDED AT OUTLETS. REFER TO ELECTRICAL.
- SPRAYGROUND EQUIPMENT ROOM SHALL BE PROVIDED WITH ARTIFICIAL LIGHTING SUFFICIENT TO ILLUMINATE ALL EQUIPMENT AND SUPPLIES. REFER TO ELECTRICAL.

PIPE SCHEDULE

ID	DESCRIPTION
P1	1" FROM MANIFOLD TO CROSSBAR JET
P2	1" FROM MANIFOLD TO WATER FUN CANNON
P3	1" FROM MANIFOLD TO GOAL POST
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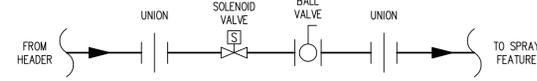
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**Sprayground
Mechanical
Room Plan
& Sections**

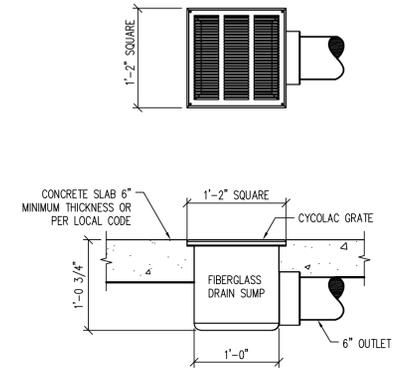
SP4.0
11044



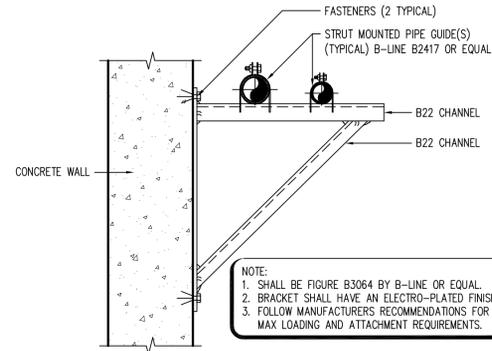


NOTE:
REFER TO PIPING
LAYOUT FOR PIPE SIZES

4 FEATURE VALVE CONNECTION
SP4.1 1 1/2" = 1'-0" 03/22/12

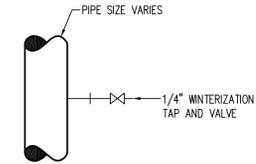


1 MAIN DRAIN
SP4.1 1" = 1'-0" 03/22/12

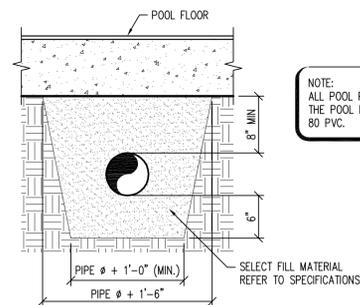


NOTE:
1. SHALL BE FIGURE B3064 BY B-LINE OR EQUAL.
2. BRACKET SHALL HAVE AN ELECTRO-PLATED FINISH.
3. FOLLOW MANUFACTURERS RECOMMENDATIONS FOR
MAX LOADING AND ATTACHMENT REQUIREMENTS.

5 ADJUSTABLE STRUT BRACKET
SP4.1 3" = 1'-0" 03/22/12

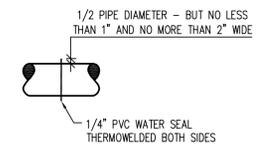


2 WINTERIZATION TAP & VALVE
SP4.1 3/4" = 1'-0" 03/22/12



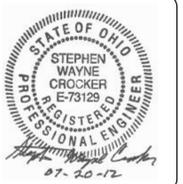
NOTE:
ALL POOL PIPING NOT LOCATED BENEATH
THE POOL FLOOR SHALL BE SCHEDULE
80 PVC.

6 BELOW GRADE PIPING
SP4.1 1" = 1'-0" 03/22/12



3 WATER SEAL
SP4.1 3/4" = 1'-0" 03/22/12

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March 7, 2013
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Sheet Issue Date: 01/12/12
Designed: EDW
Drafted: EDW
Checked: SWC

Revisions:	No.	Date	Description

**Sprayground
Mechanical
Room Plan
& Sections**

SP4.1
11044





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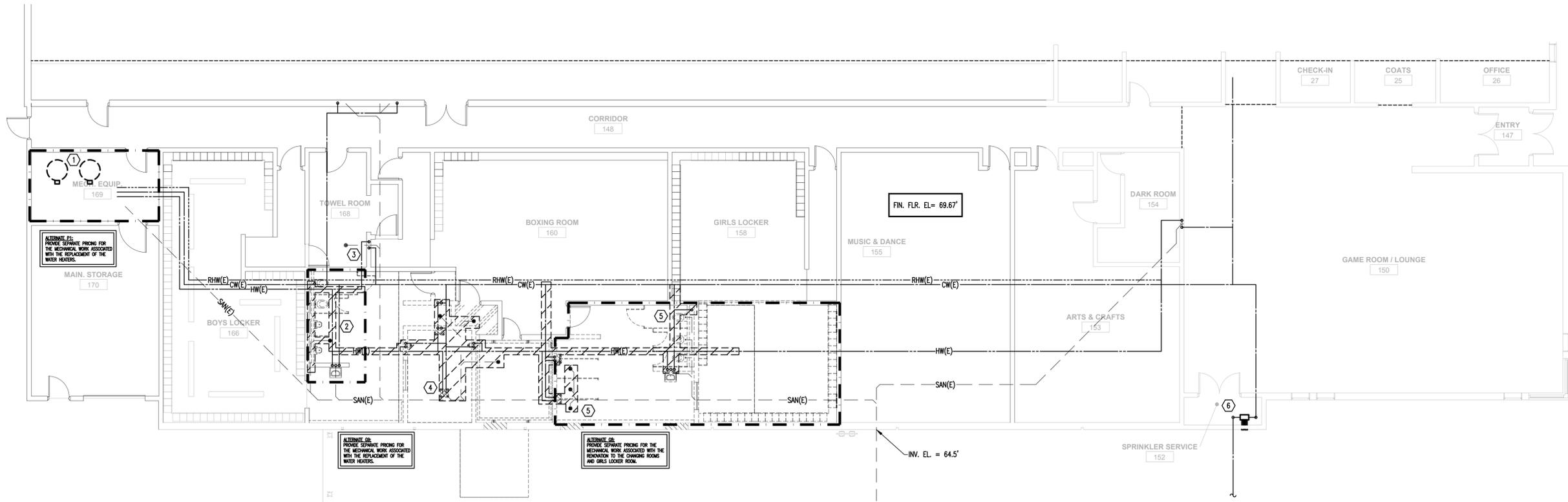
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PLUMBING
DEMO PLAN
PD-101



FLOOR PLAN AREA "B" PLUMBING DEMO
SCALE: 1/8" = 1'-0"

- CODED NOTES:** (f)
1. REMOVE TWO WATER HEATERS. CUT BACK HW, CW, AND GAS PIPING AND PREPARE PIPING FOR NEW CONNECTION TO NEW WATER HEATERS.
 2. REMOVE FIXTURES, TRIM, FLOOR DRAIN, WATER, VENT, AND SANITARY PIPING. PREPARE VENT ABOVE CEILING AND SANITARY PIPING FOR NEW CONNECTIONS. CUT WATER PIPING BACK TO MAIN AND CAP.
 3. WASHING MACHINES - ETR.
 4. REMOVE SHOWERS, FLOOR DRAINS, STEAM BOILER, STEAM PIPING, WATER, VENT, AND SANITARY PIPING. PREPARE VENT PIPING ABOVE CEILING FOR NEW CONNECTIONS. PLUG SANITARY SEWER AT CONNECTION TO BUILDING SEWER.
 5. REMOVE FIXTURES, TRIM, FLOOR DRAINS, WATER, SANITARY, AND VENT PIPING. CUT WATER PIPING BACK TO MAIN AND CAP. PLUG SANITARY SEWER AT CONNECTION TO BUILDING SEWER. PREPARE VENT PIPING ABOVE CEILING FOR NEW CONNECTIONS.
 6. WATER AND SPRINKLER ENTRY - ETR

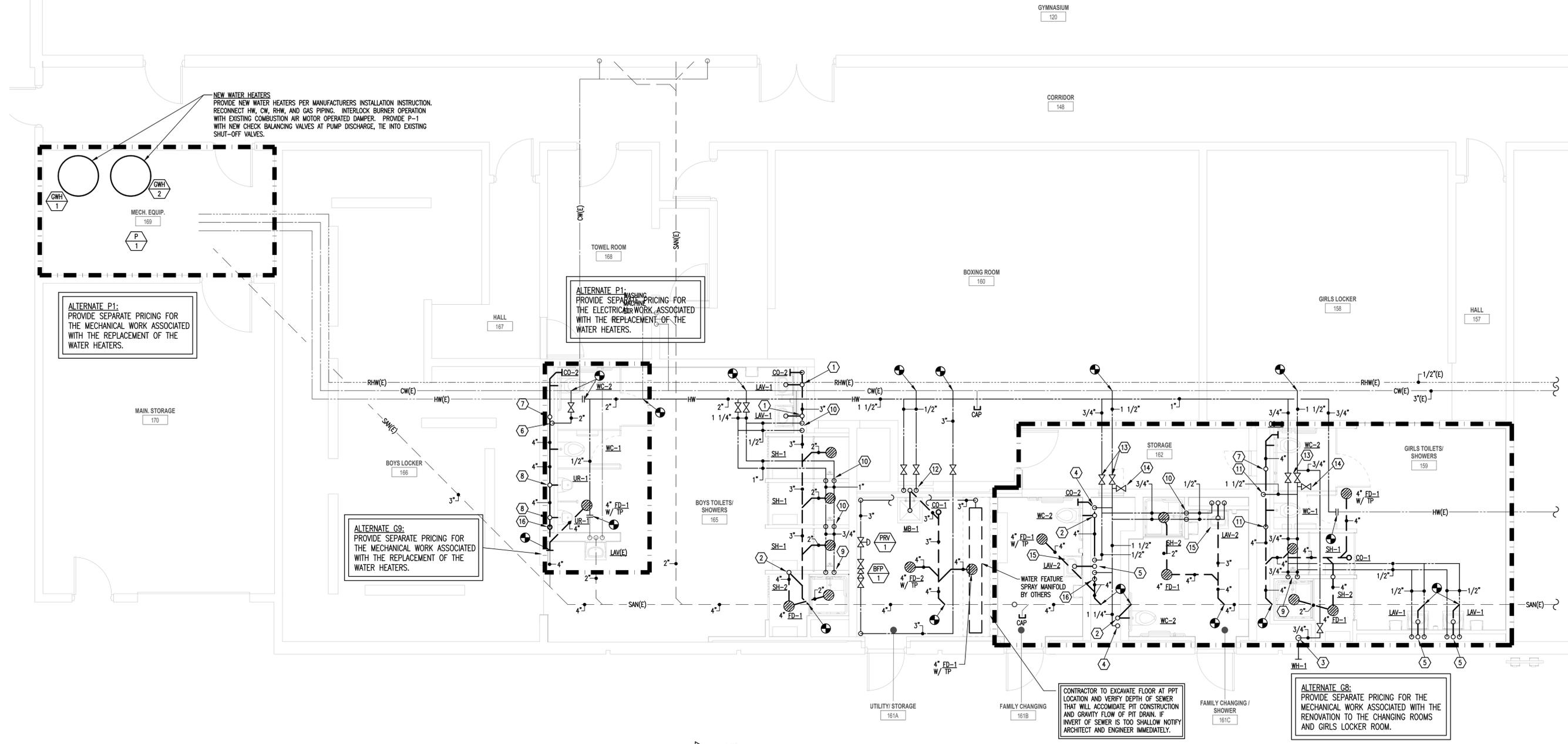
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(330) 659-6675 Fax

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GYMNASIUM
120
CORRIDOR
148



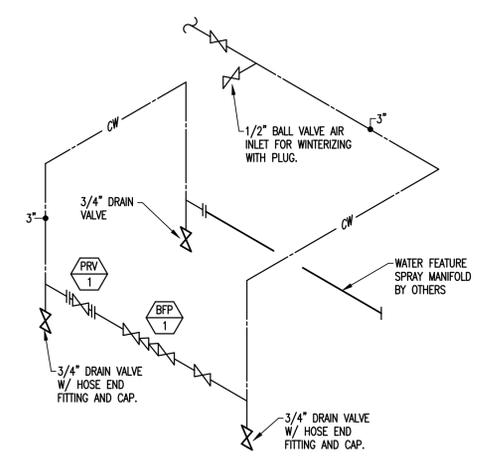
ALTERNATE P1:
PROVIDE SEPARATE PRICING FOR THE MECHANICAL WORK ASSOCIATED WITH THE REPLACEMENT OF THE WATER HEATERS.

ALTERNATE P1:
PROVIDE SEPARATE PRICING FOR THE ELECTRICAL WORK ASSOCIATED WITH THE REPLACEMENT OF THE WATER HEATERS.

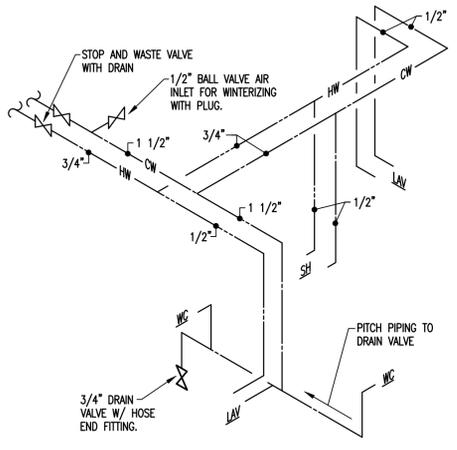
ALTERNATE G9:
PROVIDE SEPARATE PRICING FOR THE MECHANICAL WORK ASSOCIATED WITH THE REPLACEMENT OF THE WATER HEATERS.

CONTRACTOR TO EXCAVATE FLOOR AT PPT LOCATION AND VERIFY DEPTH OF SEWER THAT WILL ACCOMMODATE PIT CONSTRUCTION AND GRAVITY FLOW OF PIT DRAIN. IF INVERT OF SEWER IS TOO SHALLOW NOTIFY ARCHITECT AND ENGINEER IMMEDIATELY.

ALTERNATE G8:
PROVIDE SEPARATE PRICING FOR THE MECHANICAL WORK ASSOCIATED WITH THE RENOVATION TO THE CHANGING ROOMS AND GIRLS LOCKER ROOM.



RM #161A WINTERIZING ISOMETRIC DIAGRAM
N.T.S.



RM #161B, C WINTERIZING ISOMETRIC DIAGRAM
N.T.S.

FLOOR PLAN AREA "B" PLUMBING PLAN
SCALE: 1/4" = 1'-0"

- GENERAL NOTES: (PLUMBING)**
- THESE DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL EXTENT OF WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION AND PROPER INSTALLATION OF ALL PLUMBING SYSTEMS.
 - THE CONTRACTOR SHALL PROVIDE ALL MISCELLANEOUS SUPPORTING STEEL ETC. FOR THE PROPER INSTALLATION OF ALL PLUMBING SYSTEMS.
 - THE CONTRACTOR SHALL COORDINATE FLOOR, WALL AND ROOF PENETRATIONS WITH THE GENERAL CONTRACTOR.
 - PIPING SHALL NOT BE LOCATED IN ELECTRICAL ROOMS OR OVER THE TOP OF ANY ELECTRICAL PANELS OR EQUIPMENT.

- CODED NOTES: (F)**
- 1 1/2" SAN DN., 1 1/2" VENT UP.
 - 4" SAN DN., 2" VENT UP.
 - 3/4" CW DN. TO WALL HYDRANT.
 - 1 1/4" CW DN.
 - 1/2" CW AND HW DN. 1/2" SAN DN., 1 1/2" VENT UP.
 - 2" CW DN. W/HEADER FULL SIZE FOR CONNECTION TO FIXTURES.
 - 2" VENT UP.
 - 2" SAN DN., 1 1/2" VENT UP.
 - 3/4" CW AND HW DN. IN WALL.
 - 1/2" CW AND HW DN. IN WALL.
 - 1 1/2" CW DN. TO HEADER FULL SIZE FOR CONNECTION TO FIXTURES.
 - 1/2" CW AND HW DN., 3" SAN DN., 2" VENT UP.
 - STOP AND WASTE VALVE
 - 1/2" BALL VALVE W/ CHAIN PLUG ON OUTLET.
 - PROVIDE BRASS CRAFT R1901 DW-R DUAL OUTLET ANGLE/STOP WITH INDEPENDENT VALVE OPENING FOR WINTER DRAINING.
 - 4" SAN DN.

SPRINKLER WORK SCOPE
A WET SPRINKLER SYSTEM EXISTS AND SHALL BE MODIFIED TO COVER NEW FLOOR AREAS. REMOVE EXISTING SPRINKLERS WHERE CEILING ARE BEING REMOVED/REPLACED. PROVIDE NEW SPRINKLERS IN ACCORDANCE TO NFPA-13. AT LAY-IN CEILINGS, SPRINKLERS ARE TO BE INSTALLED IN THE CENTER OF THE 24x24 AREA OF THE TILES. THE UTILITY/STORAGE, FAMILY CHANGING AND FAMILY CHANGING/SHOWER ROOMS ARE TO BE WINTERIZED AND ARE SUBJECT TO FREEZING. USE "DRY" TYPE SIDEWALL SPRINKLERS SO THE WATER SEAL PLATE IS IN THE NON-FREEZING PORTION OF THE BUILDING.
NOTE: SEE SPECIFICATIONS.

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BACKFLOW PREVENTER SCHEDULE

MARK	BFP-1
MANUFACTURER	WATTS
MODEL No.	909 NRS
SERVICE	SPRAY EQUIP.
TYPE	RPZ
SIZE	3"
REMARKS	1

REMARKS:
1. ACCEPTABLE MANUFACTURERS; WATTS, FEBCO, ZURN, AMES, CONBRACO.

PUMP SCHEDULE

MARK	P-1
MANUFACTURER	B&G
MODEL No.	NBF-10S/LW
SIZE	1/2"
TYPE	CIRCULATOR
SERVICE	RHW
GPM	2
TOTAL HEAD (FT.)	13
NPSH	-
IMPELLER DIA. (")	-
WATTS	41
RPM	2800
ELECTRICAL (VOLT/PH)	0.45
OPER. WT. (LBS.)	10
REMARKS	1,2

REMARKS:
1. ACCEPTABLE MANUFACTURERS; BELL AND GOSSETT, ARMSTRONG, TACO, WEINMAN, AND GRUNDOS.
2. ALL BRONZE CONSTRUCTION.

DOMESTIC WATER HEATER SCHEDULE (GAS-FIRED)

MARK	GWH-1,2
MANUFACTURER	MAXIM
MODEL No.	72P260-MXG
TYPE	STORAGE
FUEL	NAT. GAS
BURNER MOTOR HP	1/3
INPUT (MBH)	720
RECOVERY AT 100°F (GPH)	720
STORAGE (GAL)	250
RELIEF VALVE SETTING (PSI)	100
FLUE SIZE (IN.)	10
ELECTRICAL (VOLT/PH)	120
REMARKS	1,2,3

REMARKS:
1. RECOVERY RATE BASED ON 40° ENTERING WATER TEMPERATURE.
2. ACCEPTABLE MANUFACTURERS; A.O. SMITH, LOCHINVAR, PV, STATE, BRADFORD WHITE, RHEEM.
3. SET AT 120°F

WATER PRESSURE REDUCING VALVE SCHEDULE

MARK	PRV-1
MANUFACTURER	WATTS
MODEL No.	NZ23BS
FLOW (GPM)	140
PRESSURE DROP (PSI)	2
SIZE	2-1/2"
INLET PRESSURE RANGE (PSI)	95-110
OUTLET PRESSURE SET POINT (PSI)	50
REMARKS	1,2,3

REMARKS:
1. PRESSURE VALVE WITH DUCTILE IRON BODY CONSTRUCTION, REPLACEABLE STAINLESS STEEL SEAT, AND STAINLESS STEEL STEM.
2. VALVE SHALL BE RATED FOR 33-160°F TEMPERATURE RANGE, 175 PSI MAXIMUM WORKING PRESSURE, AND 25-100PSI ADJUSTABLE PRESSURE RANGE.
3. FURNISH AND INSTALL EQUALIZER LINE WITH NEEDLE VALVE IN FIELD ACCORDING TO PRESSURE REDUCING VALVE MANUFACTURER'S RECOMMENDATIONS.

PLUMBING FIXTURE CONNECTION SCHEDULE

DWG. DESIGNATION	FIXTURE	C.W.	H.W.	SAN	VENT	DESCRIPTION
WC-1	WATER CLOSET	1 1/4"	-	4"	2"	AMERICAN STANDARD 3351.001 VITREOUS CHINA, SIPHON JET, LOW FLOW (1.6 GPF) WATER CLOSET, WALL MOUNTED, ELONGATED BOWL, TOP SPUD WITH SLOAN WITH EVER CLEAN SURFACE. WES-111 EXPOSED, MANUAL DUAL FLUSH VALVE, ELONGATED OPEN FRONT TOILET SEAT WITH CHECK HINGE, LESS COVER, MOUNT FIXTURE AT 15" AFF.
WC-2	WATER CLOSET	1 1/4"	-	4"	2"	SAME AS WC-1, MOUNT FIXTURE AT 17" AFF.
LAV-1 ADA	LAVATORY	1/2"	1/2"	1 1/2"	1 1/2"	AMERICAN STANDARD 0356.015 VITREOUS CHINA, WALL HUNG LAVATORY W/ FAUCET HOLES ON 8" CENTERS, CHICAGO 404-VCP DECK MOUNTED 8" FIXED CENTERS FAUCET WITH LEVER HANDLES, 2.2 GPM VANDAL PROOF AERATOR, OFFSET GRID STRAINER ASSEMBLY, 2-PIECE P-TRAP WITH PROTECTIVE WRAP, ASSE 1070 POINT OF USE MIXING VALVE (MV-1), MOUNTING HEIGHT TO BE 34" A.F.F. UNLESS OTHERWISE NOTED.
LAV-2 ADA	LAVATORY	1/2"	1/2"	1 1/2"	1 1/2"	AMERICAN STANDARD 0356.015 VITREOUS CHINA, WALL HUNG LAVATORY WITH FAUCET HOLES ON 8" CENTERS, CHICAGO 404-66ABCP DECK MOUNTED 8" FIXED CENTERS METERING FAUCET WITH ADJUSTABLE TIME CLOSURE CARTRIDGE, PUSH BUTTON HANDLES, 2.2 GPM VANDAL PROOF AERATOR, OFFSET GRID STRAINER ASSEMBLY, 2-PIECE P-TRAP WITH PROTECTIVE WRAP, ASSE 1070 POINT OF USE MIXING VALVE (MV-1), MOUNTING HEIGHT TO BE 34" A.F.F. UNLESS OTHERWISE NOTED.
UR-1 ADA	URINAL	3/4"	-	2"	1 1/2"	AMERICAN STANDARD 6590.001 TOP SPUD VITREOUS CHINA, WALL HUNG SIPHON JET, FLOWISE (0.5 GPF) URINAL WITH SLOAN 186-0.5 EXPOSED MANUAL FLUSH VALVE. MOUNT LIP OF URINAL 15" AFF.
MB-1	MOP BASIN	1/2"	1/2"	3"	2"	FIAT TBS-3000 24x24x12 TERRAZZO BASIN W/ DROP FRONT AND STAINLESS STEEL CAP IN ALL CURB SHOULDERS. PROVIDE CHICAGO 540-LD897SWFKKCP CHROME PLATED CAST BRASS 8" FAUCET WITH QUARTER TURN CERAMIC DISK CARTRIDGES, INTEGRAL CHECK STOPS, 2-1/2" LEVER HANDLES, 6" SPOUT WITH INTEGRAL VACUUM BREAKER, ADJUSTABLE WALL BRACE, PAIL HOOK, 3/4" HOSE THREAD OUTLET AND ASSE 1070 MIXING VALVE MV-1.
SH-1	SHOWER	1/2"	1/2"	2" F.D.-1 LESS T.P.	1 1/2"	BASE AND SURROUND BY G.C. PROVIDE SYMONS 1-8015-285 HYDRAPIFE SURFACE MOUNTED SHOWER SYSTEM WITH PRESSURE BALANCED MIXING VALVE, FIXED SPRAY SHOWER HEAD, SOAP DISH AND STAINLESS STEEL COVER.
SH-2 ADA	SHOWER	1/2"	1/2"	2"	1 1/2"	AQUARIUS G-3682-BF-0.50 ADA 36"x36" GELCOAT SHOWER STALL WITH L-BAR, S-BAR, FOLD UP SEAT, CURTAIN ROD, CHROME NO CAULK DRAIN AND AMERICAN STANDARD 1662.211 COMMERCIAL SHOWER SYSTEM WITH PRESSURE BALANCED MIXING VALVE, WALL SUPPLY, IN-LINE VACUUM BREAKER, 1.5 GPM HAND HELD SHOWER, 36" SLIDE BAR AND 59" METAL HOSE
WH-1	WALL HYDRANT	3/4"	-	-	-	SMITH 56090T BRONZE NICKEL PLATED QUARTER TURN EXPOSED NON-FREEZE HYDRANT WITH 3/4" HOSE CONNECTION, INTEGRAL VACUUM BREAKER AND "T" HANDLE KEY.
TPV-1	TRAP PRIMER	-	-	SEE PLANS	SEE PLANS	PPP PR-500-DU-U TRAP PRIMER VALVE WITH DISTRIBUTION UNIT FOR MULTIPLE DRAIN CONNECTIONS.
TPV-2	TRAP PRIMER	-	-	SEE PLANS	SEE PLANS	WATTS A-200 TRAP PRIMER VALVE MOUNTED UNDER LAV FOR SINGLE DRAIN.
FD-1	FLOOR DRAIN	-	-	SEE PLANS	SEE PLANS	SMITH 2005-B DUCCO CAST IRON BODY WITH FLASHING COLLAR, ADJUSTABLE 6" SQUARE NICKEL BRONZE STRAINER HEAD, AND TRAP PRIMER CONNECTION.
FD-2	FLOOR DRAIN	-	-	SEE PLANS	SEE PLANS	SMITH 2320 DUCCO CAST IRON BODY WITH FLASHING COLLAR, ADJUSTABLE 8.5" ROUND NICKEL BRONZE GRATE, AND TRAP PRIMER CONNECTION.
CO-1	CLEANOUT	-	-	SEE PLANS	SEE PLANS	SMITH 4402 DUCCO CAST IRON CLEANOUT WITH ROUND ADJUSTABLE SCORATED SECURED NICKEL BRONZE TOP.
CO-2	CLEANOUT	-	-	SEE PLANS	SEE PLANS	SMITH 4020 DUCCO CAST IRON CLEANOUT WITH ROUND STAINLESS STEEL WALL COVER AND SCREW.
MV-1	MIXING VALVE	1/2"	1/2"	-	-	WATTS MMV THERMOSTATIC MIXING VALVE. SET AT 110°.

NOTE:
1. SEE SPECIFICATIONS FOR OTHER EQUIPMENT AND TRIM REQUIRED.

PLUMBING LEGEND

— SAN —	SANITARY SEWER PIPING
— S —	SAFESTASTE SANITARY
— V —	VENT PIPING
— CW —	DOMESTIC COLD WATER PIPING
— HW —	DOMESTIC HOT WATER PIPING
— RHW —	RECIRCULATING HOT WATER PIPING
— G —	GAS PIPING
— — — — —	PIPING ABOVE GRADE/FLOOR
— — — — —	PIPING BELOW GRADE/FLOOR
— CW(E) —	EXISTING COLD WATER TO REMAIN
— HW(E) —	EXISTING HOT WATER TO REMAIN
— RHW(E) —	EXISTING HOT WATER RETURN TO REMAIN
— SAN(E) —	EXISTING SANITARY TO REMAIN
— X —	SHUTOFF VALVE
— ● —	POINT OF CONNECTION
— XX —	EQUIPMENT TAG
CO	CLEANOUT
CTX	CONNECT TO EXISTING
WH	WATER HEATER
ETR	EXISTING TO REMAIN
E	EXISTING
FD	FLOOR DRAIN
LAV	LAVATORY
MB	MOP BASIN
BP	BACKFLOW PREVENTER
SH	SHOWER
SW	SAFE WASTE
TD	TRENCH DRAIN
TPV	TRAP PRIMER VALVE
UR	URINAL
WC	WATER CLOSET
WH	WALL HYDRANT
IE	INVERT ELEVATION
TP	TRAP PRIMER

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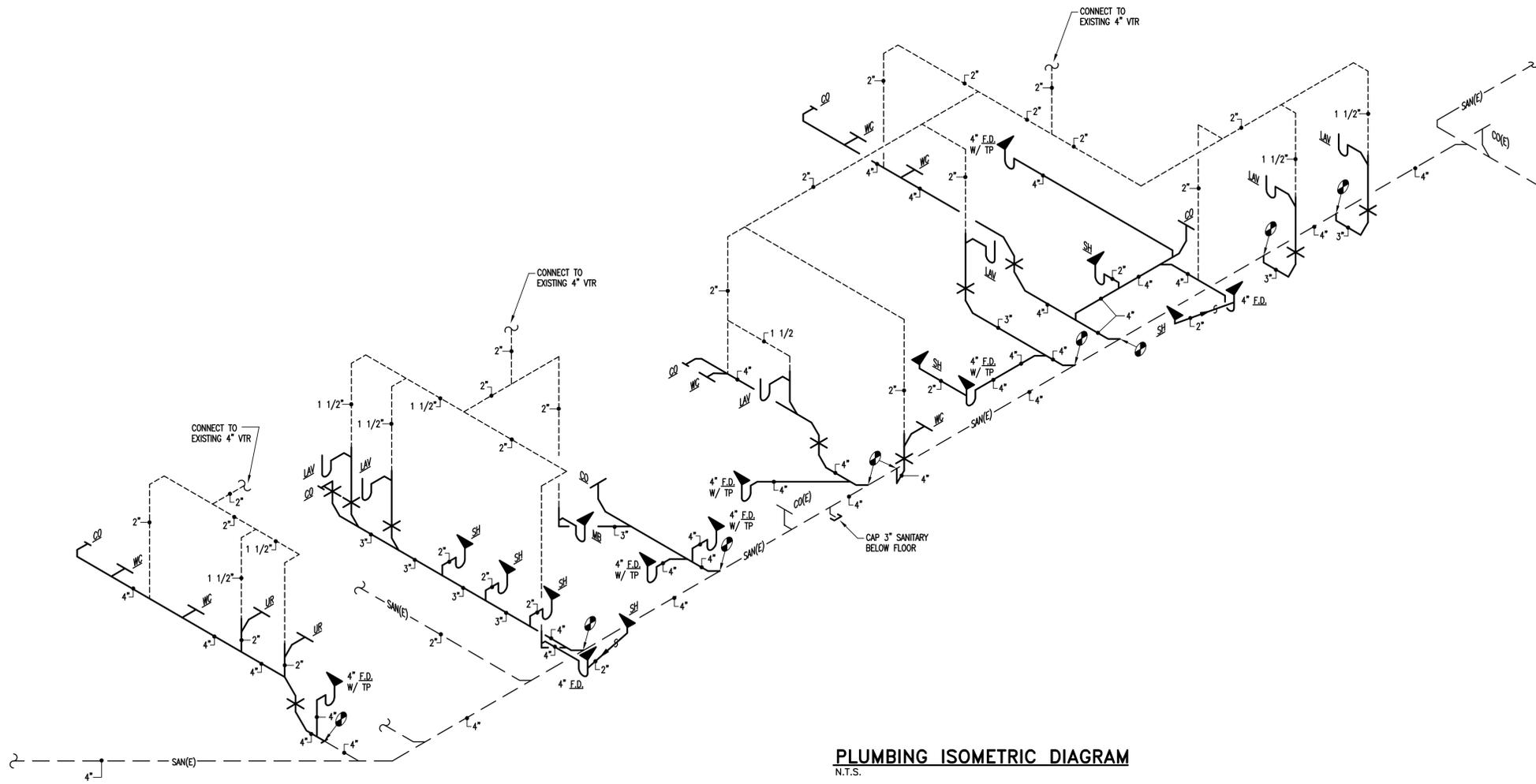
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PLUMBING FIXTURE SCHEDULE

P-201

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PLUMBING ISOMETRIC DIAGRAM
N.T.S.

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PLUMBING ISOMETRIC DIAGRAM

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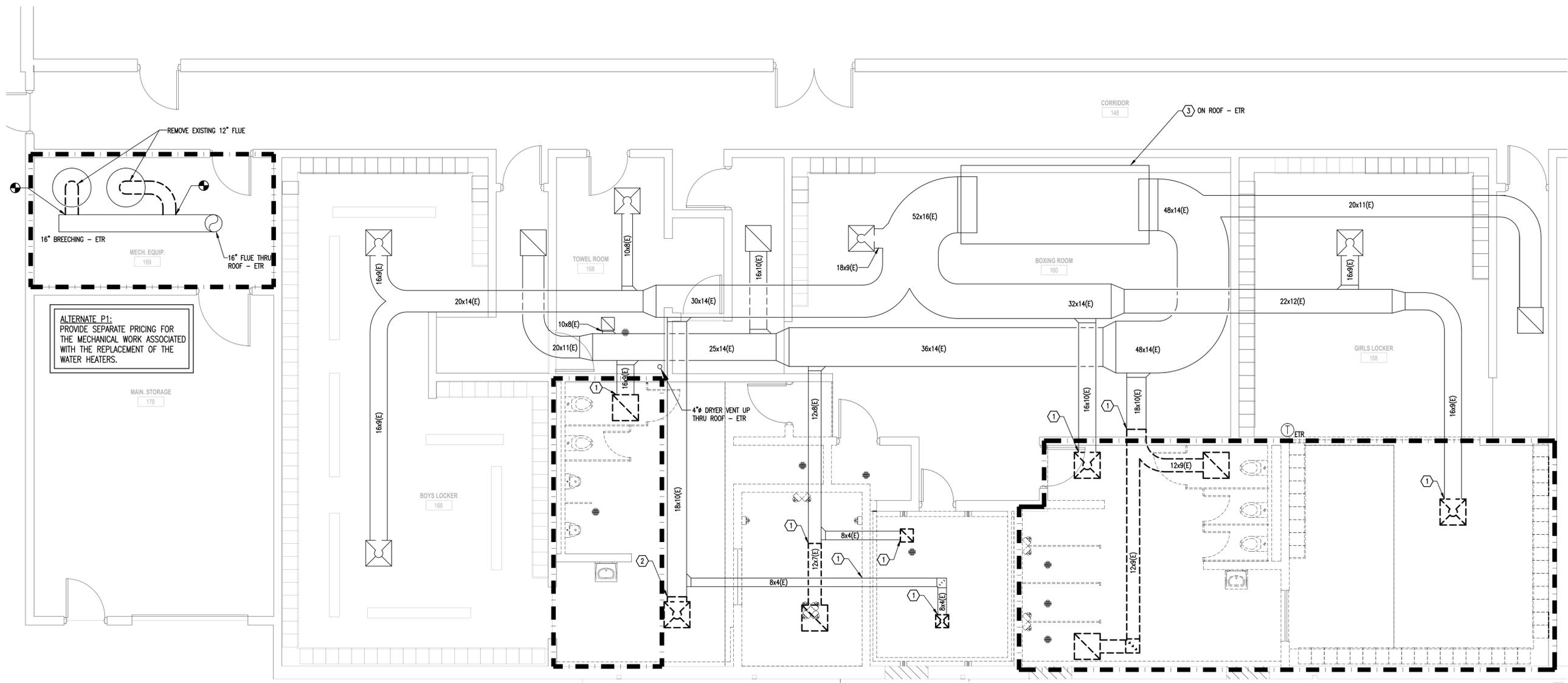
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ALTERNATE P1:
PROVIDE SEPARATE PRICING FOR
THE MECHANICAL WORK ASSOCIATED
WITH THE REPLACEMENT OF THE
WATER HEATERS.

ALTERNATE G9:
PROVIDE SEPARATE PRICING FOR
THE MECHANICAL WORK ASSOCIATED
WITH THE REPLACEMENT OF THE
WATER HEATERS.

ALTERNATE G8:
PROVIDE SEPARATE PRICING FOR THE
MECHANICAL WORK ASSOCIATED WITH THE
RENOVATION TO THE CHANGING ROOMS
AND GIRLS LOCKER ROOM.

HVAC LEGEND

	EXISTING DUCTWORK	CD	CEILING DIFFUSER
	EXISTING DUCTWORK TO BE REMOVED	G	GRILLE
	THERMOSTAT	RG	RETURN GRILLE
	SUPPLY OR OUTDOOR AIR DUCT	L	LOUVER
	RETURN OR EXHAUST DUCT	D	DAMPER
	DUCT LINING	SA	SUPPLY AIR
	DUCT SOUND ATTENUATOR SA-1 = SEE SCHEDULE	EA	EXHAUST AIR
	POINT OF CONNECTION	RA	RETURN AIR
	EQUIPMENT TAG	QA	OUTSIDE AIR
	MANUAL DAMPER	AP	ACCESS PANEL
		CLG	CEILING
		FD	FIRE DAMPER
		ETR	EXISTING TO REMAIN ABOVE FINISHED FLOOR
		ART	EXISTING
		E	EXISTING

FLOOR PLAN AREA "B" MECHANICAL DEMO

SCALE: 1/4" = 1'-0"



- CODED NOTES:
- CUT DUCT, REMOVE DOWNSTREAM DUCTWORK AND DEVICES AND PREPARE DUCT FOR NEW CONNECTION.
 - CUT DUCT AND CAP AIR TIGHT. REMOVE DOWNSTREAM DUCTWORK AND DEVICES.
 - EXISTING 100% OUTDOOR AIR HEAT RECOVERY HVAC UNIT.

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MECHANICAL SPECIFICATIONS

Section 15010 – General Requirements

- A. General
- Specifications are applicable to all contractors and/or subcontractors for mechanical systems.
 - Check other plans and specifications and fully coordinate with other trades, owner and architect requirements.
 - Conform to all general and special conditions of contract as specified by architect and/or owner.
 - Visit site, check facilities and conditions and make all necessary observations and measurements. Note conditions under which work is to be performed and take all items into consideration in bid.
 - Systems are to be complete and workable in all respects, placed in operation and properly adjusted.
 - Each contractor shall provide for his own clean-up, removal and legal disposal of all rubbish daily.
 - Contractor shall protect his work, his existing and adjacent property against weather.
 - Contractor to protect his work, materials, apparatus and fixtures from damage. Any work damaged by failure to provide protection required, shall be removed and replaced with new material at the contractor's expense.
 - Contractor must confirm all utility company requirements and connection points in field, prior to starting work.
 - Arrange for and obtain owner's and insurance representative's permission for any service on or in the building.
 - The contractor shall be solely responsible for construction means, methods, sequences of construction and the safety of workmen.
 - No piping, ductwork, wiring, etc., shall be installed or routed above electrical panels and equipment or through elevator equipment rooms.
 - The mechanical contractor shall coordinate with the electrical contractor and obtain a written approval identifying the electrical characteristics of all mechanical equipment prior to ordering of equipment. No additional payment will be made for lack of contractor coordination of electrical characteristics.
 - During construction the contractor may uncover an existing condition that will have to be modified. Any such work which comes under the jurisdiction of this contractor shall be done by this contractor without extra cost to the owner, as though fully detailed on plans and/or described in the specifications.
 - Work related to the existing building shall be coordinated to minimize interference or interruption of normal building use by owner. Refer to architectural plans for phasing requirements.

- B. Codes, permits, standards and regulations
- Conform to all applicable codes (local, state, national codes, NFPA, OSHA, etc.), government regulations, utility company requirements, and applicable standards.
 - Obtain permits and pay all fees. Arrange for all required inspections and approvals.

- C. Related work specified elsewhere
- Openings and chases, when shown on architectural drawings.
 - Temporary water service, sanitary facilities, fire protection and heating during construction.
 - Poured-in-place concrete.
 - Finished painting.
 - Electric power wiring.

- D. Drawings
- The systems as shown on mechanical drawings are diagrammatic. Confirm all dimensions by field measurement.
 - The exact locations for fixtures, equipment and piping which is not covered by drawings, shall be obtained from the architect or his representative in the field and the work shall be laid out accordingly.
 - Drawings and specifications are intended to supplement one another. Any materials or labor called for in one but not the other shall be furnished as if both were mentioned in the specifications and shown on the drawings.

- E. Base equipment, materials and substitutions
- All equipment and materials shall be new, free of defects and UL listed.
 - Base bid manufacturers are included in the specification or listed in schedules on the drawings. All other manufacturers are considered substitution.
 - The name or make of any article, device, material, form of construction, fixture, etc., stated in this specification, whether or not the words "or approved equal" are used, shall be known as a "standard".
 - All proposals shall be based on "standards" specified.
 - The equipment schedules on the drawings indicate manufacturer's equipment model numbers that this design has been based on. The use of other manufacturer's equipment that is listed as acceptable alternates that entails general trades, structural, mechanical, electrical, etc. revisions is the contractor's responsibility. Any additional cost of such changes shall be paid by the contractor submitting the acceptable alternates which necessitates changes in installing such submitted alternate equipment, even though such costs may be part of another division of work.
 - Substitutions are subject to the approval of the owner. If a substitution is submitted, it is the contractor's responsibility to evaluate it and certify that the substitution is equivalent in all respects to the base specifications.
 - If substitutions are approved, notify all other contractors, subcontractors, etc., affected by the substitution and fully coordinate with them. Any costs resulting from substitution, whether by this contractor or others, shall be the responsibility of and paid for by the substituting contractor. Approved shop drawings do not absolve this contractor from this responsibility.
 - All equipment shall be installed in full accordance with the manufacturer's data and installation instructions. It is the contractor's responsibility to check and conform these requirements prior to starting work.

- F. Warranty
- Fully warrant all materials, equipment and workmanship for one (1) year from date of acceptance.
 - Repair or replace without charge to the owner all items found defective during the warranty period. In the case of replacement or repair due to failure within the warranty period, the warranty on that portion of the work shall be extended for a minimum period of one (1) year from the date of such replacement or repair.

- G. Shop drawing submittals
- Submit shop drawings for mechanical, plumbing and fire protection systems, including but not limited to sheetmetal, plumbing fixtures and equipment with adequate details and scales to clearly show construction. Indicate the operating characteristics for each required item. Clearly identify each item on the submittal as to mark, location and use, using the same identification as provided on the construction documents.
 - Sheetmetal fire protection drawings shall be fully dimensioned and coordinated based on field verified building clearances and architectural ceiling layouts. Indicate structural, lighting, ductwork and piping at all critical locations.
 - Contractor shall review and indicate his approval of each shop drawing prior to submittal for review. Shop drawings will not be reviewed by the engineer unless the contractor's approval is noted. Do not start work or fabrication until shop drawings have been reviewed by the engineer and returned to the contractor.
 - Submittals will be reviewed only for general compliance with the contract documents and not for dimensions or quantities. The submittal review shall not relieve the contractor of responsibility for purchase of any item in full compliance with the contract documents or its complete and proper installation.
 - Where submittals vary from the contract requirements, the contractor shall clearly indicate on submittal or accompanying documents the nature and reason for the variations.
 - Each manufacturer or his representative must check the application of his equipment and certify at time of shop drawing submittal that the equipment specified has been properly applied and can be installed, serviced and maintained where indicated on the drawings. Unless an engineer in writing prohibits drawings fully detail potential problems. The manufacturer shall be responsible for any changes that might be necessary because of physical characteristics of equipment that have not been called to the engineer's attention at the time of submittal.

- H. Record Drawings
- Each contractor or subcontractor shall keep one (1) complete set of the contract drawings on the job site on which he shall regularly record any deviations or changes from such contract drawings made during construction.
 - These drawings shall record the installed location of all concealed equipment, piping, electric service, sewers, wastes, vents, ducts, conduit, etc., by measure dimensions to each such item from column centerlines or readily identifiable and accessible walls or corners of the building. Plans also shall show invert elevation of sewers and top elevation of all other below-grade lines.
 - Record drawings shall be kept clean and undamaged and shall not be used for any purpose other than recording deviations from working drawings and exact locations of concealed work.
 - After the project is completed, these drawings shall be delivered to the architect in good condition, as a permanent record of the installation as actually constructed.

Section 15050 – Basic Materials and Methods

- A. General
- Provide all materials, labor, equipment, and accessories required to furnish and install the mechanical items identified in this section.
 - This section includes basic mechanical materials and methods to complement other division 15 sections in this specification and requirements indicated on the mechanical drawings.

Section 15050 (cont.)

- B. Excavation and Backfill
- Perform all excavation and backfill required for installation of below-grade piping.
 - Excavate as required to install piping at required depth and pitch. Pipe to be laid on sand bedding to give uniform bearing along length of pipe (sand inside building and interlocking aggregate outside building).
 - Backfill with bedding material to a minimum of twelve (12) inches above top of pipe and conditions above roof level. Balance of backfill in indoor grass areas shall be clean earth up to six (6) inches above surrounding grades. Backfill below finished floors shall be sand, and outdoors under paving shall be interlocking aggregate and backfill shall be compacted in maximum twelve (12) inch layers.
 - Other excavations shall be backfilled with clean earth, excluding rubbish and boulders. Backfill shall be thoroughly tamped and puddled.
 - Patch floor to match existing adjacent surfaces.

- C. Supports and Hangers
- Hangers and supports are to be provided to properly support, secure and align piping and to meet field conditions and as manufactured by Grinnell or Michigan.
 - Spacing to comply with ASHRAE standards and local code requirements.

- D. Escutcheons
- Fit all pipe passing through walls, floors or ceilings in finished rooms with steel or brass escutcheons. Where surface is to receive a paint finish make escutcheons prime painted; otherwise make escutcheons nickel or chrome plated. Where piping is insulated, fit escutcheons outside insulation.

- E. Pipe Identification
- Identify each pipe, valve in equipment rooms, above accessible ceilings and in accessible shafts.
 - Color code identification bands or marker backgrounds to identify contents of pipe and direction of flow located near each valve and fitting, on both sides of pipe passing through walls and on long runs at not over 20 foot intervals.

- F. Access Panels
- Contractor shall be responsible for providing all required access panels necessary for his work. This includes any access panels required for HVAC, plumbing and fire protection. Contractor shall also provide access panels for any existing conditions as required.
 - Refer to architectural drawings and specifications for type of access panel and coordinate locations prior to any work.

- G. Flues (as manufactured by Selkirk Metalbestos, United McGill or Van Packer)
- Flues shall be type B, double wall type. Inner pipe shall be fabricated of type 430 stainless steel and the outer pipe of aluminum steel. Provide ventilated roof thimble, exit cone and stack cap.

- H. Firestopping
- All openings through fire rated walls, floors and/or roofs for ductwork, piping, etc., shall be fire sealed with calcium silicate, silicone "RTV" foam, "3M" fire rated sealants, Hillt Firestop Systems or approved equal to maintain the intended fire rating and associated UL ratings.

- I. Cutting, Patching and Drilling
- All cutting and patching of the building construction required for this work shall be by the contractor unless shown on architectural drawings and confirmed as to size and location prior to new construction. Cutting shall be in a neat and workmanlike manner.
 - Neatly saw cut all rectangular openings, set sleeve through opening, and finish patch or provide trim flange around opening.
 - Neatly saw cut floors and patch floor to match existing, including floor covering.
 - Contractor shall field verify slab-on-grade or supported floor construction type prior to cutting. Under no circumstances shall this contractor cut a structural floor slab, whether on grade or supported, without prior written approval from the architect. If floor slab indicated to be cut on mechanical plans is found to be structural in nature, do not cut. Contact architect immediately for further directions.
 - Core drill and sleeve all round openings.
 - Do not cut any structural components without architect's written approval, including, but not limited to roof joists, columns, floor joists, beams, girders, structural floor slabs, etc.
 - Patch and finish to match adjacent areas that have been cut, damaged or modified as a result of the installation of the mechanical systems. Fire stop all penetrations of fire rated construction in a code approved manner.
 - All contractors shall confer with owner, prior to bid, times available for noise producing work such as cutting and core drilling of floors, walls, etc., as well as times for work which requires access into adjoining tenant spaces. Include any premium time in bid.
 - The mechanical contractor shall coordinate with the general contractor prior to construction. The contractor shall provide information regarding openings in walls, floors, etc., concrete equipment pads and foundations to the general contractor. If the mechanical contractor fails to comply with this request, or if incorrect information is given, the necessary cutting and patching will be performed by the general contractor, at the mechanical contractor's expense.

- J. Demolition and Removal
- Disconnect, cap and remove all piping, ductwork and equipment indicated on the drawings or as required for the project.
 - Any equipment designated by owner to be salvaged shall be protected and delivered to the owner on site.
 - Demolition shall be done in a manner so as not to damage adjacent work and not affect the operation of systems to remain in use. Any item to remain that is damaged by the contractor shall be replaced and/or repaired at the contractor's expense.
 - All open ended piping and ductwork that is to remain shall be capped and properly secured.
 - All electrical devices, wiring, conduit, etc., related to demolished equipment/systems shall be removed. Wiring shall be disconnected at circuit breakers, removed and breakers marked "spare".
 - All asbestos removal will be handled by the owner and is not a part of this work.
 - Examine areas and conditions under which demolition work must be performed. This contractor shall coordinate his work with other trades performing demolition work and/or demolition work performed by the owner.
 - Remove all supports, hangers, etc., related to equipment and material indicated to be demolished.
 - Where temperature controls are indicated for demolition, retain the services of a temperature control contractor to perform such demolition.

Section 15100 – Insulation

- A. General
- Furnish all material, labor and equipment as required to install complete plumbing and HVAC insulation as indicated on mechanical drawings and in these specifications.
 - Install in full accordance with manufacturer's recommendations.
- B. Plumbing Insulation (as manufactured by Owens Corning, Knafuf or Schuller)
- Insulate all above grade hot and cold water piping with molded fiberglass having an all service jacket.
 - B.a. Insulation thickness schedule:
 - 1. Less than (C) 1-1/2" diameter pipe: 3/4" thick.
 - 2. 1-1/2"-8" diameter pipe: 1" thick.
 - Include insulation of fittings and valves. Keep vapor barriers intact. Apply to manufacturer's recommendations.
 - Handicapped lavatory insulation – insulate all exposed waste and water supply piping under lavatory with safety covers per ADA requirements as manufactured by Plumberex Specialty Products, McGuire or Truober.
 - Repair sections of existing piping insulation damaged or damaged during this construction period. Use insulation of same thickness as existing insulation, install new jacket lapping and sealed over existing.

- C. HVAC Insulation (as manufactured by Owens Corning, Knafuf, Schuller, Armstrong, or Rubatex)
- Insulate all non-lined supply, return, and exhaust ducts with 1-1/2" thick foil faced reinforced kraft jacket, fiberglass duct wrap fully secured to duct. Lap and tape seams and secure tightly to the ducts with wire or stick pins.
 - All insulation to be applied in full accordance with the manufacturer's recommendations and comply with 25/50 flame and smoke hazard ratings per ASTM E-84, NFPA 255 and UL 723.
 - Provide removable insulation sections to cover parts of equipment which must be opened periodically for maintenance including metal vessel covers, fasteners, flanges, chilled water pumps, frames and accessories.
 - Repair damaged sections of existing mechanical insulation damaged during this construction period. Use insulation of same thickness as existing insulation, install new jacket lapping and seal over existing.
 - Replace damaged insulation which cannot be repaired satisfactorily, including units with vapor barrier damage and moisture saturated units.

Section 15200 – Piping and Valves

- A. General
- Furnish all material, labor, equipment, and accessories as required to install complete plumbing and HVAC piping systems as indicated on mechanical drawings and in these specifications.
 - Install in full accordance with local code requirements, other specification section requirements and manufacturer's recommendations.

Section 15200 (cont.)

- B. Sanitary and Storm Sewers
- Install sanitary and storm sewers, stacks, vents, drains, etc., as indicated on the drawings.
 - Sewers to be pitched a minimum of 1/4" per foot for 3" sizes and under and 1/8" per foot for 4" sizes and larger or to grades indicated on drawings.
 - Changes in direction and branch connections shall be made with approved drainage fittings compatible with the piping system material in which it is installed.
 - Install cleanouts at base of each vertical waste stack, each change in a direction of piping greater than 45 degrees, and within five (5) feet of main sewer after exiting the building.
 - All fixtures and sanitary drains shall be vented as indicated on drawings and in accordance with code.
 - Vents are to be extended through roof as indicated on drawings and flashed with 4 lb. lead with vent flashing top turned down two (2) inches minimum inside pipe.
 - PVC piping shall not be installed unless permitted by code and shall not be installed in return air plenums.
 - Sanitary sewer and vent material shall be as follows:
 - B.a. Below grade storm and sanitary inside building
 - 8.1. Service weight – cast iron pipe ASTM A-74-82 with ASTM C-564-80 neoprene compression joints or no-hub with clamps.
 - 8.2. PVC-DW plastic ASTM D-1785 with ASTM D-2665 DW solvent weld socket fittings.
 - B.b. Above grade sanitary sewer and vent material shall be as follows:
 - 8.1. No-hub cast iron pipe CISPI 1-301-78.
 - 8.2. PVC-DW plastic ASTM D-1785 with ASTM D-2665 DW solvent weld socket fittings.
 - 8.3. SCH. 40 galvanized steel pipe ASTM A-120-83 with cast iron screwed fittings ANSI B-16.22 1983.

- C. Domestic Water Piping
- Install domestic water piping as indicated on drawings. Include all fittings, valves, hangers, and other accessories including backflow preventer. Extend domestic water piping to all fixtures and equipment required for complete installation.
 - Include unions, or other disconnect means, stops or valves for isolation of fixtures and equipment. Unions or other disconnect means with piping for service intended as manufactured by Nibco, Crane or Milwaukee. Include hose or drain valves at low points where fixtures cannot be used for drainage.
 - Install shock absorbers at each quick closing fixture and where required to prevent water hammer as manufactured by J.R. Smith, Sioux Chief or Zurn.
 - Hangers on insulated pipe to be outside of insulation, sized accordingly with a sufficient saddle to protect insulation as manufactured by Grinnell or Michigan.
 - Domestic water piping shall be as follows:
 - C.a. Above grade – type "L" hard copper ASTM B 88-832 with wrought copper fittings ASTM B 16.22 1980 and non-lead or antimony solder joints.
 - C.b. Below grade – type "K" soft copper without joints.
 - Flush, vent and sanitize all water piping with chlorine as required per AWWA, local building department and health department codes.
 - Domestic hot and cold water piping under concrete floor to be covered with sand so that piping will not become embedded in the floor slab.
 - All piping under concrete floor shall be type "K" soft copper, continuous. No splices or fittings will be allowed.
 - Extreme caution must be taken so that no copper piping and insulation under concrete floors becomes crushed, cut, split or deformed during the pouring of the floor slab.

- D. Gas Piping
- Install gas piping.
 - Equipment connections at each unit shall include gas cock, union and dirt leg.
 - All gas piping shall conform to recommended practice and regulation of the NFPA, Local Gas Company and the state of Ohio code.
 - Gas piping shall be as follows:
 - D.a. Above-grade inside or outside building, low pressure.
 - 4.1. Schedule 40 seamless black steel pipe, beveled ends.
 - D.a.a. 2" and smaller – screwed fittings, wrought iron.
 - D.a.b. 2-1/2" and larger – welded fittings, black steel.
 - D.b. Valves shall not be located above accessible ceiling spaces, whether or not such spaces are used as a plenum.
 - D.c. Exterior exposed bare steel pipe shall be painted with two (2) coats of rust inhibitive paint.
 - D.d. All welding shall be performed by state certified welders.

- E. Fire Protection Piping
- See Section 15300, Fire Protection Systems.

- F. Firestopping
- See Section 15050, Basic Materials and Methods.

Section 15300 – Fire Protection Systems

- A. General
- Furnish all labor, materials and equipment as required to install a complete fire protection system for project.
- B. Design Basis
- Design basis for system shall be per NFPA 13 (latest edition) and local code requirements.
 - System shall be hydraulically calculated as required by code.
 - A closed wet sprinkler system exists and is to be modified. Remove existing sprinklers where ceilings are being removed/replaced, provide new sprinklers in accordance to NFPA-13 spacing rules for new wall placement. At lay-in ceilings, sprinklers are to be installed in the center of the tiles. The utility/storage, family changing and family changing/shower rooms are to be winterized and are subject to freezing. Use "dry" type sidewall sprinklers so the water seal plate is in the non-freezing portion of the building.
- C. Drawings and Calculations
- Contractor shall prepare submittal drawings and hydraulic calculations for space in accordance with owner's insurance company building department, and local fire authority requirements.
 - Contractor shall perform a flow test data on city water main and submit data with calculations.
 - Contractor and designer shall be state certified.

- D. Piping
- All piping shall be installed in accordance with NFPA 13, 14 (latest edition) and local code requirements.
 - Fire protection piping shall be as follows:
 - D.a. Inside building – pipe and tubing shall be steel or copper in accordance with NFPA requirements.
 - D.b. Piping shall match existing building standards.
 - D.c. Contractor shall arrange with owner and insurance underwriter prior to shut down of existing systems.
 - D.d. Flush all piping upon completion of project and test per NFPA requirements.
 - D.e. No piping shall be installed at locations subject to freezing.
 - Excavation and backfill – see Section 15050, Basic Materials and Methods.

- E. Sprinkler Heads
- Sprinkler heads shall be UL listed, match existing building standards and be manufactured by Central, Star or Wiking.
 - Sprinkler heads shall be as follows:
 - E.a. Areas with exposed structure
 - 2.1. Upright – rough brass.
 - E.b. Areas with ceilings
 - 2.1. Surface mounted, chrome plated brass, fusible link with standard surface mounted escutcheon.
 - Install concealed heads with white flush mounted cover plate.
 - Install higher temperature sprinkler heads where required by code or application.
 - Submit samples of sprinkler heads to architect prior to fabrication of any piping.

- F. Firestopping
- See Section 15050, Basic Materials and Methods.

Section 15400 – Plumbing Fixtures and Equipment

- A. General
- Furnish all fixtures and equipment indicated and scheduled on drawings, complete with all accessories, controls, etc., as required.
 - Install in full accordance with manufacturer's recommendations and place in satisfactory operation.

Section 15500 (cont.)

Section 15500 – HVAC Systems and Equipment

- A. General
- Furnish all equipment, material, labor, tools, etc., for the complete HVAC system. Install complete and place in operation.
 - Contractors bidding this project shall visit this site and familiarize themselves with all conditions affecting their work. Submission of a bid on this project shall be construed as having such knowledge.
 - Verify exact conditions in field and coordinate with these drawings and other trades before beginning new work.
 - Determine exact locations for all new and relocated equipment, piping, conduits and ductwork in field.
 - Coordinate work of this contract with other trades. Conflicts shall immediately be brought to the attention of the architect. Architect's resolution to conflicts shall be final.
 - Any discrepancies between what is shown on drawings or specified and the actual conditions in the field shall immediately be brought to the attention of the architect before proceeding.
 - Building and surfaces damaged during installation shall be repaired, replaced, and/or restored to original condition after completion of work and before acceptance by owner.
 - During construction, all return air ductwork and transfer air openings serving existing air handling equipment and/or adjacent spaces shall be protected. Openings which need to remain active shall be covered and protected with MERV 8 filtration media; openings which can remain inactive during construction shall be covered with plastic sheathing and sealed air tight. Filter media shall be replaced regularly as required during construction in order to ensure adequate airflow through all required active openings. In addition, at the end of each phase of construction and at the end of the construction project, all filtration media within each piece of equipment serving the space shall be replaced.

- B. Equipment
- Contractor shall perform routine service inspection of existing heat recovery, HVAC unit to be revised. Lubricate bearing, service control systems, replace fan belts and install new filters in all return air units.
 - Contractor shall field verify refrigerant charge and add refrigerant if the charge is less than manufacturer's specifications.
 - Submit service report to any major component failures or malfunctions. Report shall include cost to service all malfunctioning or damaged items listed. Cost shall include parts and labor. Equipment shall be placed in full operation with controls calibrated upon completion of project.

Section 15600 – Air Distribution Systems

- A. General
- Furnish all materials, labor, equipment and accessories required to install complete air distribution systems.
 - Contractors bidding this project shall visit this site and familiarize themselves with all condition affecting their work. Submission of a bid on this project shall be construed as having such knowledge.
 - Verify exact conditions in field and coordinate with these drawings and other trades before beginning new work.
 - Determine exact locations for all new and relocated ductwork and accessories in field.
 - Coordinate work of this contract with other trades.
 - Any discrepancies between what is shown on drawings or specified and the actual conditions in the field shall immediately be brought to the attention of the architect before proceeding.
 - Building and surfaces damaged during installation shall be repaired, replaced, and/or restored to original condition after completion of work and before acceptance by owner.
- B. Ductwork
- Fabricate and erect all ductwork to ASHRAE and SMACNA standards from no. 1 galvanized steel. Comply with NFPA 90A requirements.
 - Ductwork shall be SMACNA low pressure construction 2" static pressure rating with seal Class B seams and joints.
 - Include all acoustic, grill shaped perforated aluminum turning vanes, manual dampers, flexible connectors, grilles and diffusers and other sheet metal accessories for the project.
 - All branch connection fittings in rectangular ductwork shall be 45 degree transition type, conical fittings or operable fittings with integral air scope. Butt fittings are not acceptable.
 - All exposed round ductwork shall be spiral seam ductwork.

- C. Duct Accessories
- Flexible ductwork (as manufactured by Cleveflex, Flexmaster or Wiremold).
 - C.a. Flexible ducts shall be independently supported from the structure and connected with plastic draw bands and tightened. Flexible ducts shall be limited to 48" maximum straight length. Flexible ducts shall be constructed of 1 1/2" insulation with vinyl vapor barrier jacket and rated at 10" W.C. for sizes through 12", UL listed, and meet 25/50 flame and smoke test. Flexible ducts are not permitted in rooms without ceiling.
 - Dampers (as manufactured by Ruskin, Nailor or Safe-Air)
 - C.a. Fabricate in accordance with SMACNA Standards. Provide end bearings and locking, indicating quadrant regulators. Blade to be single thickness with continuous hinge or rod.
 - Access Doors (as manufactured by Ruskin, Nailor or Safe-Air)
 - C.a. Fabricate in accordance with SMACNA standards. Doors to be fabricated of galvanized steel with sealing gasket and quick locking device.
 - C.b. For insulated ductwork, doors shall have minimum one (1) inch insulation with sheet metal cover.

- D. Firestopping
- See Section 15050 Basic Materials and Methods.

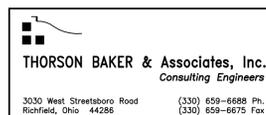
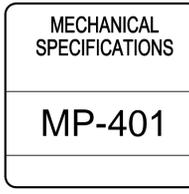
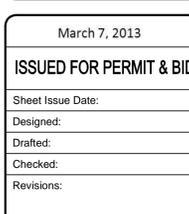
Section 15700 – HVAC Instrumentation and Controls

- A. General
- Existing to remain, contractor shall verify operation and sequence.

Section 15750 – Testing, Adjusting and Balancing

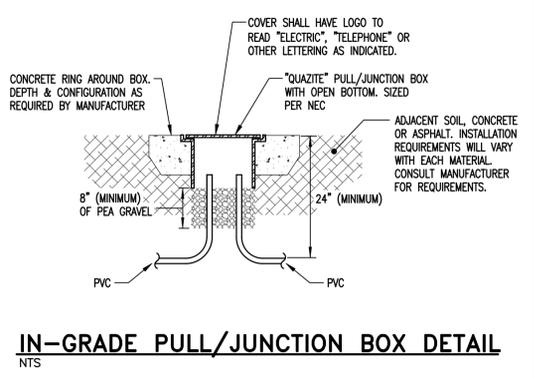
- A. General
- After installation, check all equipment and perform start up in accordance with the manufacturer's instructions.
 - All piping shall be tested and free of leaks as required by the local authority having jurisdiction.
 - Work that is scheduled to be concealed or insulated shall remain uncovered until required tests have been completed. If the construction schedule requires, arrange for tests on sections of the system at a time.
 - Balance all systems, calibrate controls, check for proper operation and sequence under all conditions and make all necessary adjustments.
 - Instruct owner in operation of systems and submit operating and maintenance manual for all equipment and systems.
 - Submit air balance report from independent AABC or NEBB certified subcontractor for all air and water systems per AABC or NEBB standards.

- B. Balancing, Start Up and Instructions
- After equipment is placed in operation, systems shall be balanced to within 10% of design flow with report submitted to owner. Balancing shall be performed by an independent AABC or NEBB certified contractor.
 - Balance the air systems prior to balancing hydronic, steam, and refrigerant systems.
 - Test, adjust and balance cooling systems during summer season and heating systems during winter season. Balance systems when the outside air conditions are within 5 degrees F wet bulb temperature of the maximum summer design condition and within 10 degrees F dry bulb temperature of the minimum winter design condition.
 - Start up and place all systems in operation and tag all switches and controls with permanent labels.
 - Instruct owner on proper operation and preventative maintenance of system.



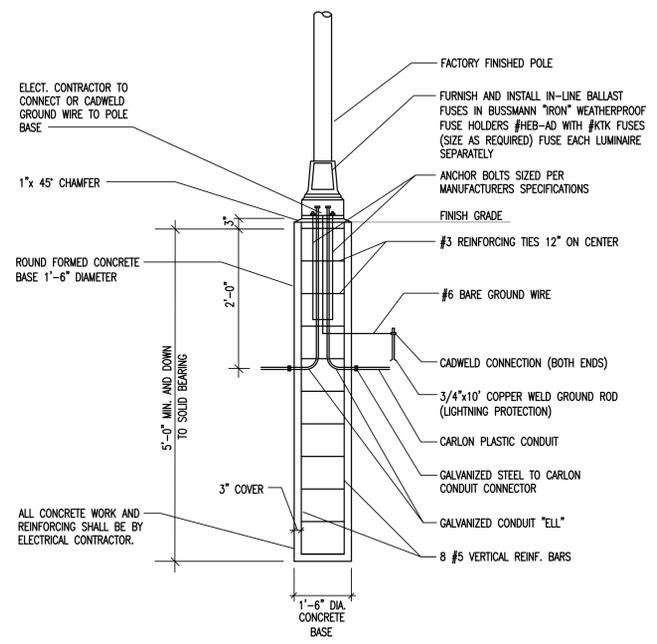


- ### SITE ELECTRICAL NOTES
1. EXACT LOCATIONS OF PARKING LOT LIGHTING STANDARDS SHALL BE COORDINATED WITH APPROVED ARCHITECTURAL SITE PLAN AND PARKING LOT LAYOUT.
 2. ALL LIGHTING FIXTURES PROJECTING TOWARD ADJACENT RESIDENTIAL AREAS MUST BE PROPERLY SHIELDED TO PREVENT LIGHT SOURCE FROM EXTENDING INTO THIS AREA.
 3. THE LUMINAIRE MANUFACTURER SHALL PROVIDE COMPUTER GENERATED POINT BY POINT FOOTCANDLE CALCULATIONS ALONG WITH THEIR SHOP DRAWINGS SUBMITTAL. THE FORMAT OF THIS POINT BY POINT CALCULATION SHALL BE IN THE FORM OF AN OVERLAY OF THE ENTIRE PARKING AREA WITH CALCULATED POINTS 25 FEET ON CENTER.
 4. ALL SITE LIGHTING POLES SHALL BE DESIGNED TO WITHSTAND 90 MPH WINDS WITH A 1.3 GUST FACTOR.
 5. ELECTRICAL CONTRACTOR SHALL INSTALL EACH LIGHTING POLE PLUMB AND TRUE. ELECTRICAL CONTRACTOR SHALL PROVIDE NECESSARY LEVELING SHIMS.
 6. ELECTRICAL CONTRACTOR SHALL BACKFILL ALL ELECTRICAL TRENCHES USING CLEAN FILL MATERIAL FREE OF ORGANIC CONTAMINATIONS AND OTHER DELETERIOUS MATTER. PLACE BACKFILL MATERIAL IN 8" THICK LAYERS WITH EACH LIFT COMPACTED AT NEAR OPTIMUM MOISTURE CONTENT. COMPACT LIFTS TO ACHIEVE A MINIMUM IN PLACE DENSITY OF 95% OF THE MAXIMUM DENSITY AS DETERMINED BY ASTM D698.
 7. ELECTRICAL CONTRACTOR SHALL COORDINATE LOCATION OF EASEMENTS, UNDERGROUND UTILITIES, AND DRAINAGE PRIOR TO TRENCHING OR AUGERING FOR POLE BASE. (TYPICAL)



- ### IN-GRADE PULL/JUNCTION BOX DETAIL
- NTS
- NOTES:
1. SPLICES SHALL BE AVOIDED WHERE POSSIBLE. WHERE REQUIRED, SPLICES SHALL BE MADE WITH WATERPROOF CONNECTORS.
 2. CONCRETE ENCASUREMENT TO BE 3,000 PSI MINIMUM.
 3. DO NOT LOCATE BOXES IN HIGH VOLUME TRAFFIC APPLICATIONS.
 4. COMPACT SOIL AROUND BOX TO MANUFACTURERS RECOMMENDATIONS.
 5. THIS DETAIL IS INTENDED TO SHOW GENERAL DESIGN INTENT ONLY. THE ELECTRICAL CONTRACTOR MUST VERIFY ALL INSTALLATION REQUIREMENTS WITH THE MANUFACTURER PRIOR TO THE INSTALLATION AND INSTALL ALL BOXES ACCORDINGLY.

ALTERNATE E1:
 PROVIDE SEPARATE PRICING TO FURNISH AND INSTALL ALL OF THE NEW TYPE "S1" SITE LIGHTING STANDARDS, INCLUDING THE CONCRETE FOUNDATION, POLES, FIXTURES AND ASSOCIATED BRANCH CIRCUIT WIRING.



- ### POLE BASE DETAIL
- NTS
- NOTES:
1. 3500 P.S.I. MIN. 28 DAY COMPRESSIVE STRENGTH CONCRETE WITH GRADE 60 REINFORCING STEEL
 2. IF WATER IS PRESENT IN HOLE. REMOVE BEFORE POURING CONCRETE.
 3. FOUNDATION EXCAVATION SHALL BE BY 18" AUGER IN UNDISTURBED OR PROPERLY COMPACTED FILL PER SPECIFICATIONS.
 4. FOUNDATION SHALL HAVE A MINIMUM ALLOWABLE END BEARING OF 2000 P.S.F., INCREASE BASE DEPTH AS REQUIRED.

- CODED NOTES:** (E)
1. EXISTING UTILITY POLE WITH (3) TRANSFORMERS IS TO REMAIN. EXISTING OVERHEAD PRIMARY ELECTRIC SERVICE CONDUCTORS, TELEPHONE/DATA/CABLE TV SERVICE CABLES TO BE RE-WORKED TO NEW UTILITY POLE LINE.
 2. EXISTING UTILITY POLE TO BE REMOVED.
 3. CONFIRM WITH OWNER WHETHER EXISTING UTILITY POLE WITH STREET LIGHT IS TO REMAIN OR BE REMOVED.
 4. EXISTING ELECTRIC SERVICE, METERING AND LIGHTING CONTROLS TO BE REMOVED. INTERCEPT (2) 1" CONDUITS CONTAINING SITE LIGHTING BRANCH CIRCUITS AT GRADE. FURNISH AND INSTALL FLUSH TO GRADE PULL BOX AND EXTEND BRANCH CIRCUITS UNDERGROUND TO BUILDING PANEL BOARDS. FURNISH AND INSTALL NEW BREAKERS, AND PHOTOCELL TO SERVE SITE LIGHTING BRANCH CIRCUITS.
 5. EXISTING SITE LIGHTING POLES. EXISTING CIRCUITS TO BE RE-WORKED PER CODED NOTE #4
 6. NEW UTILITY POLE TO BE INSTALLED.

- GENERAL NOTES:**
1. ROOMS OR AREAS SHOWN SHADED ON THIS PLAN, WITH THE FOLLOWING SHADING TYPE ARE DEDICATED FOR A SPECIFIC USE. EXAMPLES INCLUDE ELECTRICAL ROOMS, TECHNOLOGY/DATA CLOSETS, EXIT STAIRWELLS, AND ELEVATOR EQUIPMENT ROOMS. UNDER NO CIRCUMSTANCES SHALL PIPING, DUCTWORK, OR EQUIPMENT BE INSTALLED IN OR ROUTED THROUGH THESE ROOMS OR AREAS EXCEPT FOR BRANCH PIPING OR DUCTWORK SPECIFICALLY SERVING THE ROOM OR AREA. DEDICATED SPACE SHALL EXTEND VERTICALLY FROM FLOOR TO STRUCTURAL CEILING.

ELECTRICAL SITE PLAN
 SCALE: 1" = 25'-0"



March 7, 2013

ISSUED FOR BID

Sheet Issue Date: 11/06/09

Drafted:

Checked:

Revisions:

No.	Date	Description
1	07-21-12	REVISED PER BUILDING AND ENGINEERING REVIEW COMMENTS

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March 7, 2013

ISSUED FOR BID

Sheet Issue Date: 11/06/09

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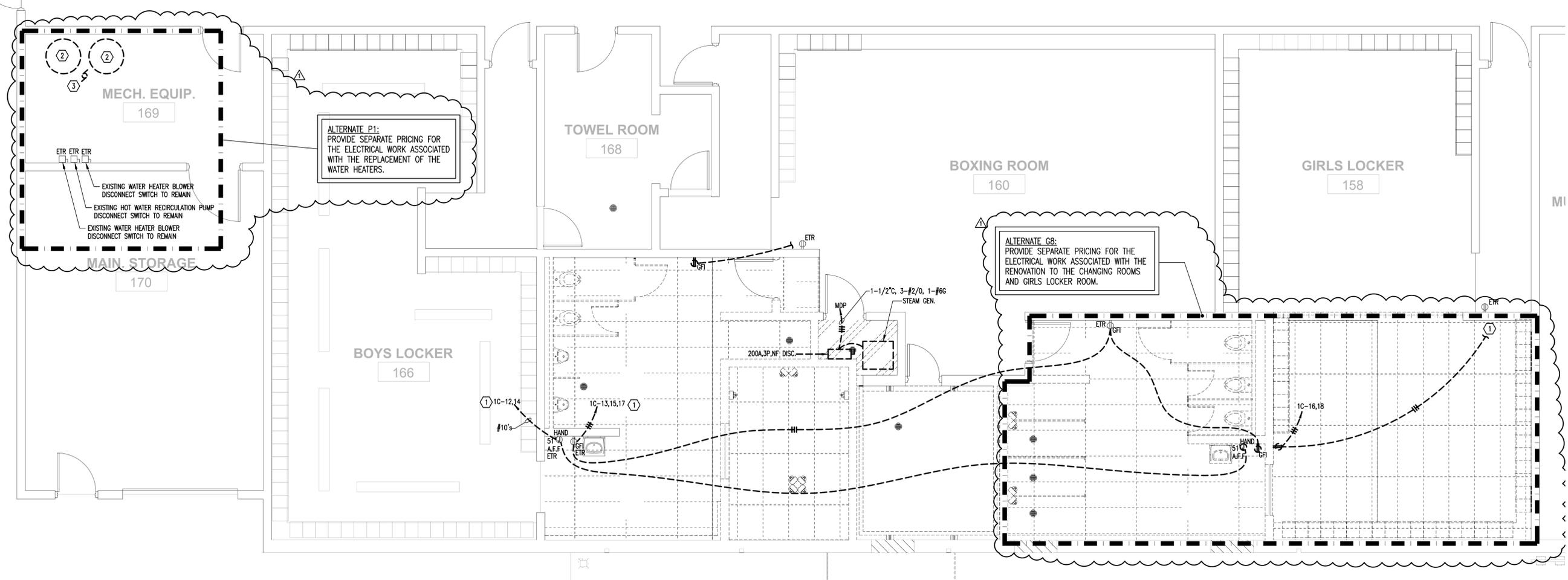
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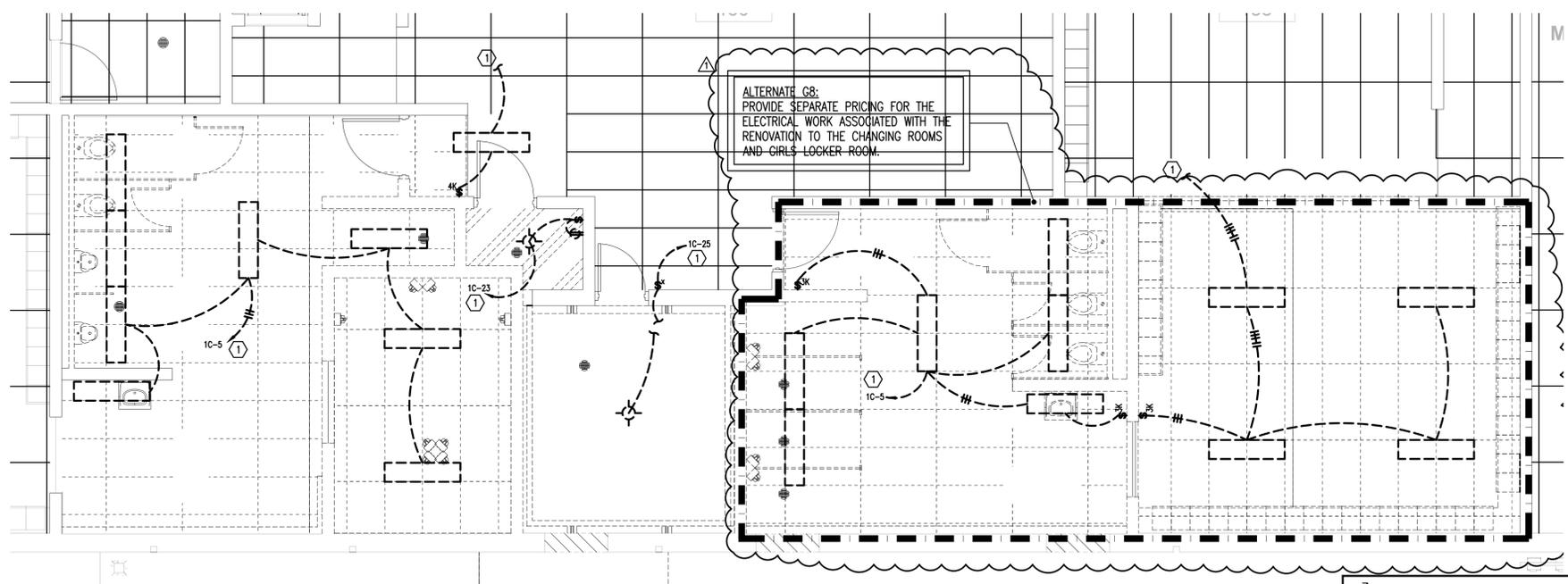
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No.	Date	Description
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FLOOR PLAN AREA "B" POWER DEMO
SCALE: 1/4" = 1'-0"



FLOOR PLAN AREA "B" LIGHTING DEMO
SCALE: 1/4" = 1'-0"

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DEMOLITION NOTES

- IN EVERY INSTANCE OF DEMOLITION AND/OR REMODELING, THE ELECTRICAL CONTRACTOR SHALL FIGURE A COMPLETE JOB AS NONE OTHER SHALL BE ACCEPTED.
- THE DRAWINGS ARE TO BE USED ONLY AS A GUIDELINE FOR DEMOLITION. THE ELECTRICAL CONTRACTOR MUST VISIT THE SITE PRIOR TO BIDDING TO VERIFY ALL WORK REQUIRED FOR A COMPLETE JOB & INCLUDE THE COST OF SUCH WORK IN HIS BID.
- THE ELECTRICAL CONTRACTOR SHALL MAINTAIN EXISTING SERVICES TO & IN THE EXISTING AREA AS REQUIRED.
- IF NECESSARY, THE ELECTRICAL CONTRACTOR SHALL PROVIDE TEMPORARY SERVICES IN THE EXISTING AREAS.
- THE ELECTRICAL CONTRACTOR SHALL DISCONNECT & REMOVE ELECTRIC SERVICE TO ALL MECHANICAL EQUIPMENT BEING REMOVED AS A RESULT OF THE REMODELING.
- ELECTRICAL EQUIPMENT & DEVICES SHALL BE REMOVED COMPLETE INCLUDING CONDUIT & WIRE.
- FLUSH MOUNTED WALL OUTLETS SHALL BE BLANKED-OFF WITH A COVERPLATE. COVERPLATE COLOR SHALL BE SELECTED BY ARCHITECT.
- ANY EXISTING CONDUIT, WIRING AND/OR ELECTRICAL & MECHANICAL DEVICES BEING DISTURBED BY THE WORK SHALL BE REMOVED BY THIS CONTRACTOR AS REQUIRED TO RETURN TO ITS FORMER EXISTING OPERATING CONDITION.
- ANY CIRCUITS FEEDING THROUGH DEVICES OR EQUIPMENT BEING RELOCATED, REWORKED, OR ABANDONED & SERVING OTHER ELECTRICAL DEVICES, AND/OR EQUIPMENT SHALL BE MAINTAINED BY PROVIDING J-BOXES OR OTHER ACCEPTABLE METHOD AS REQUIRED.
- ALL WALLS, CEILINGS, FLOORS, ETC., BEING DISTURBED BY THE WORK SHALL BE RETURNED TO FINISHED CONDITIONS TO MATCH EXISTING BY THE ELECTRICAL CONTRACTOR & HE SHALL DO HIS OWN CUTTING & PATCHING AS NECESSARY UNDER HIS CONTRACT.
- EXISTING MATERIALS SHALL BE TURNED OVER TO THE OWNER, IF NOT REQUIRED BY OWNER, THE ELECTRICAL CONTRACTOR SHALL REMOVE THESE MATERIALS FROM THE PREMISES.
- NO CONDUIT, BOXES, WIRING, OR CABLES SHALL BE INSTALLED WITHIN 1 1/2" OF THE LOWEST POINT OF THE UNDERSIDE OF THE ROOF DECKING, NOR SHALL THEY BE INSTALLED CONCEALED WITHIN METAL-CORRUGATED ROOF DECKING. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE TO REPLACE AND/OR REWORK EXISTING CONDUIT, BOXES, WIRING, AND CABLING THAT IS NOT IN COMPLIANCE WITH THIS REQUIREMENT.
- ALL CONDUIT AND CABLING SHALL BE PROPERLY SUPPORTED AS REQUIRED BY THE NATIONAL ELECTRICAL CODE. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE TO REPLACE AND/OR REWORK EXISTING CONDUIT AND/OR CABLING THAT IS NOT IN COMPLIANCE WITH THIS REQUIREMENT.

GENERAL NOTES:

- REFERENCE ARCHITECTURAL, CIVIL AND MECHANICAL PLANS FOR ADDITIONAL WORK RELATED TO THE ELECTRICAL DEMOLITION SCOPE OF WORK.
- REFERENCE ELECTRICAL DEMOLITION NOTES, THIS DRAWING.

DEMOLITION LEGEND:

- ETR EXISTING DEVICE/FIXTURE/EQUIPMENT/CONDUIT/WIRE TO REMAIN
RM EXISTING DEVICE/FIXTURE/EQUIPMENT/CONDUIT/WIRE TO BE REMOVED
RL EXISTING DEVICE/FIXTURE/EQUIPMENT/CONDUIT/WIRE TO BE RELOCATED

CODED NOTES:

- RE-USE AND REWORK EXISTING BRANCH CIRCUIT AS INDICATED ON LIGHTING AND/OR POWER PLAN.
- EXISTING GAS WATER HEATERS ARE TO BE REMOVED AND REPLACED WITH NEW. REMOVE/DISCONNECT EXISTING CONTROL/BLOWER CIRCUIT TO EACH EXISTING UNIT. RECONNECT EXISTING CONTROL/BLOWER CIRCUIT TO EACH OF THE NEW HEATERS.
- EXISTING HOT WATER RECIRCULATION PUMP IS TO BE REMOVED AND REPLACED WITH NEW. REMOVE/DISCONNECT EXISTING CIRCUIT TO UNIT. RECONNECT EXISTING CIRCUIT TO NEW FRACTIONAL PUMP.

ALTERNATE P1:
PROVIDE SEPARATE PRICING FOR THE ELECTRICAL WORK ASSOCIATED WITH THE REPLACEMENT OF THE WATER HEATERS.

ALTERNATE G8:
PROVIDE SEPARATE PRICING FOR THE ELECTRICAL WORK ASSOCIATED WITH THE RENOVATION TO THE CHANGING ROOMS AND GIRLS LOCKER ROOM.

ALTERNATE G8:
PROVIDE SEPARATE PRICING FOR THE ELECTRICAL WORK ASSOCIATED WITH THE RENOVATION TO THE CHANGING ROOMS AND GIRLS LOCKER ROOM.



March 7, 2013

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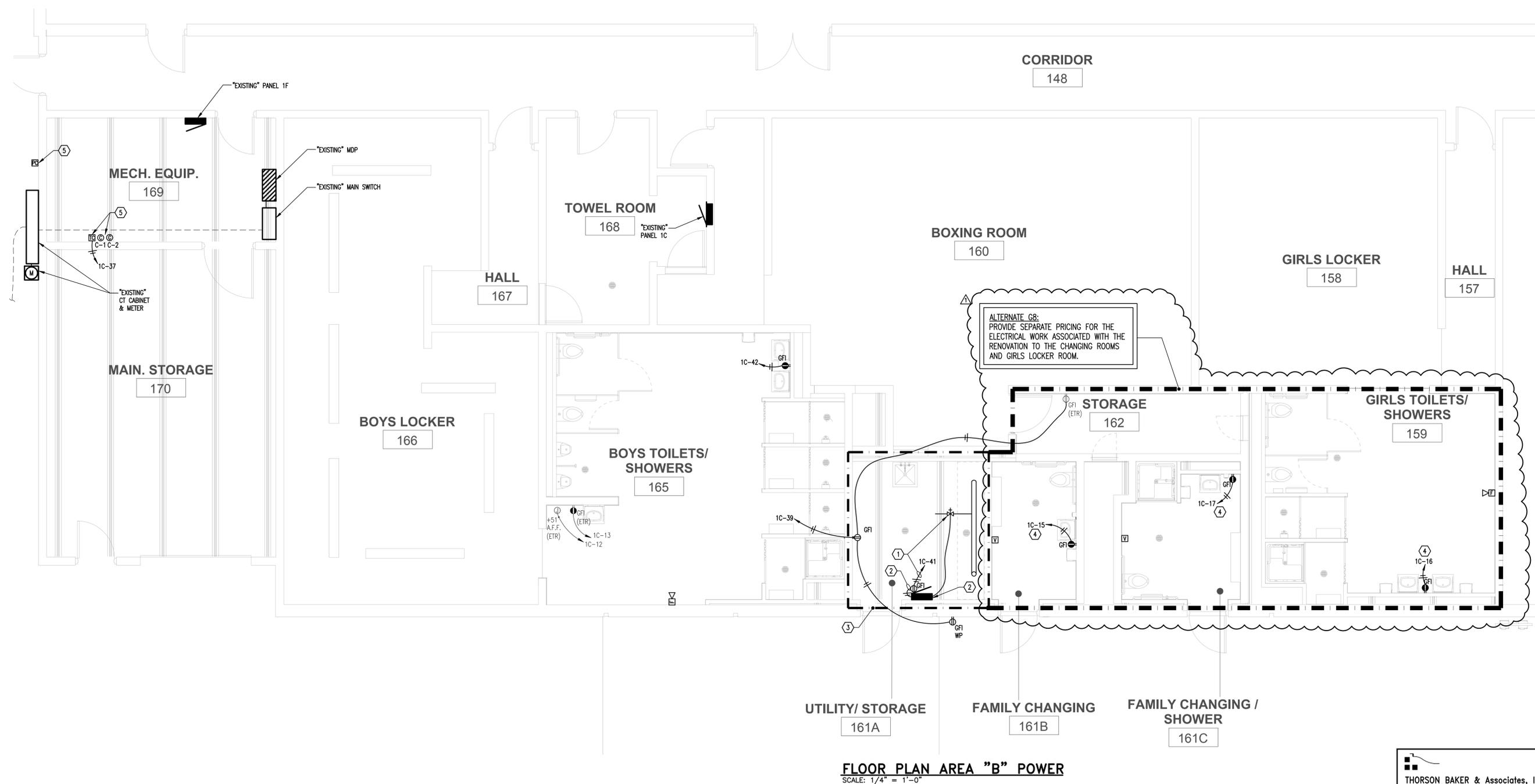
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GENERAL NOTES:

1. REFERENCE ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION RELATED TO THE ELECTRICAL INSTALLATION. COORDINATE DEVICE LOCATIONS WITH ACCESSORIES BEING PROVIDED.
2. REFERENCE MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION. COORDINATE ELECTRICAL CONDUIT, WIRE, LIGHT FIXTURES AND EQUIPMENT LOCATIONS WITH MECHANICAL DUCTWORK, PIPING AND EQUIPMENT.
3. PRIOR TO ROUGH-IN COORDINATE EXACT POWER REQUIREMENTS AND LOW VOLTAGE ROUGH-IN REQUIREMENTS FOR ALL OWNER FURNISHED EQUIPMENT AND SYSTEMS.
4. NEW CONDUIT/RACEWAY BEING INSTALLED SHALL BE CONCEALED WITHIN NEW AND EXISTING CONSTRUCTION. WHERE REQUIRED, INSTALL MC CABLE IN EXISTING STUD WALLS AND INSTALL SURFACE MOUNTED RACEWAY ON EXISTING BLOCK WALLS. WHEN THERE IS NO AVAILABLE OPTION BUT TO SURFACE MOUNT A VISIBLE RACEWAY, CONSULT ARCHITECT/ENGINEER FOR APPROVAL PRIOR TO INSTALLATION.
5. ALL EXISTING UNUSED WIRE, CABLING, CONDUIT AND EQUIPMENT SHALL BE REMOVED COMPLETE.

CODED NOTES: (F)

1. FURNISH AND INSTALL 24VAC CABLING IN WEATHER-TIGHT CONDUIT FROM EACH OF 37 SOLENOID VALVES TO WATER FEATURE CONTROL PANEL.
2. FURNISH AND INSTALL A 20A, 120V, GFI PROTECTED CIRCUIT TO WATER FEATURE CONTROL PANEL.
3. COORDINATE LOCATIONS OF WATER FEATURE EQUIPMENT AND ELECTRICAL REQUIREMENTS WITH SUPPLIER PRIOR TO ROUGH-IN.
4. RE-WORK EXISTING CIRCUIT THAT WAS MADE SPARE DUE TO DEMOLITION OF RENOVATED AREA.
5. REFERENCE SITE LIGHTING CONTROL DIAGRAM, SHEET E201.



ALTERNATE C8:
PROVIDE SEPARATE PRICING FOR THE ELECTRICAL WORK ASSOCIATED WITH THE RENOVATION TO THE CHANGING ROOMS AND GIRLS LOCKER ROOM.

FLOOR PLAN AREA "B" POWER
SCALE: 1/4" = 1'-0"

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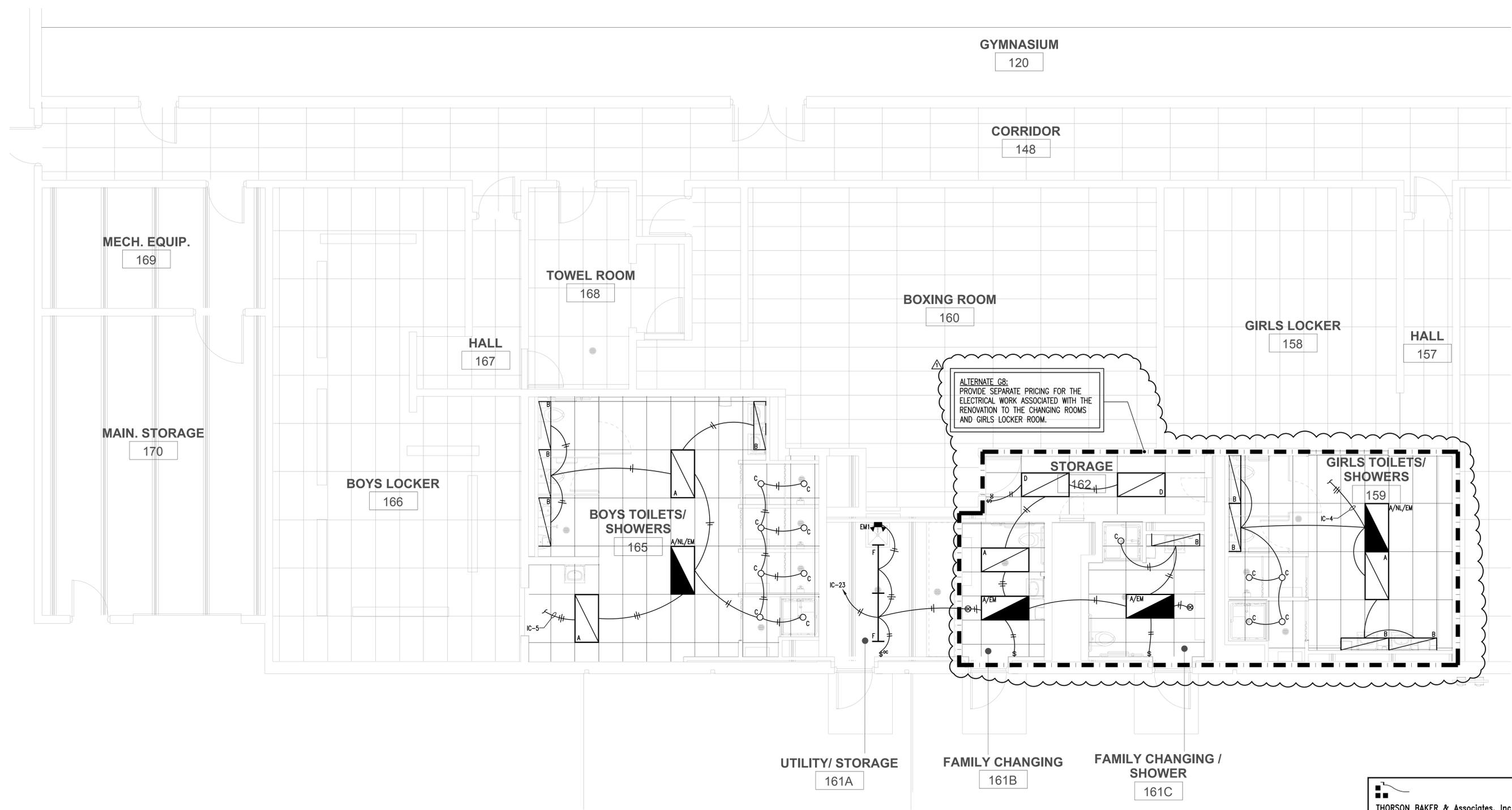
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GENERAL NOTES:

1. REFERENCE ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION RELATED TO THE ELECTRICAL INSTALLATION. COORDINATE LIGHT FIXTURE LOCATIONS AND MOUNTING OPTIONS WITH CEILING GRID AND CEILING TYPE BEING INSTALLED.
2. REFERENCE MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION. COORDINATE ELECTRICAL CONDUIT, WIRE, LIGHT FIXTURE AND EQUIPMENT LOCATIONS WITH MECHANICAL DUCTWORK, PIPING AND EQUIPMENT.
3. WHERE EMERGENCY AND EXIT FIXTURES WITH AN INTEGRAL BATTERY PACK ARE USED, WIRE FIXTURES AHEAD OF ALL SWITCHING ON CIRCUIT INDICATED. EMERGENCY BATTERY BALLASTS ASSOCIATED WITH FLUORESCENT FIXTURES SHALL BE WIRED FOR SWITCHED OPERATION, UNLESS INDICATED OTHERWISE. PROVIDE AN ADDITIONAL HOT WIRE TO EMERGENCY BALLAST FOR SWITCHED OPERATION.
4. THE BALLAST(S) FOR FLUORESCENT EMERGENCY FIXTURES DESIGNATED AS NIGHT LIGHTS (NL) SHALL BE WIRED FOR 24 HOUR OPERATION (NON-SWITCHED).
5. FURNISH AND INSTALL OCCUPANCY SENSORS PER MANUFACTURER'S RECOMMENDATIONS.
6. PROVIDE TEMPORARY POWER AND TEMPORARY EMERGENCY, EXIT AND GENERAL LIGHTING FOR ALL RENOVATED AREAS AS REQUIRED.

CODED NOTES: (F)

1. WIRE EMERGENCY BALLAST FOR SWITCHED OPERATION



FLOOR PLAN AREA "B" LIGHTING
SCALE: 1/4" = 1'-0"

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SERVICE EQUIPMENT	
SYMBOL	DESCRIPTION
	SWITCHBOARD FLOOR MOUNTED ON 4" HIGH CONCRETE HOUSING KEEPING PAD. SEE PANEL SCHEDULES AND ONE-LINE DIAGRAM.
	DISTRIBUTION PANEL MOUNTED 6"-6' TO TOP. SEE PANEL SCHEDULES AND ONE-LINE DIAGRAM.
	PANELBOARD RECESSED MOUNTED 6"-6' TO TOP. SEE PANEL SCHEDULES AND ONE-LINE DIAGRAM.
	PANELBOARD SURFACE MOUNTED 6"-6' TO TOP. SEE PANEL SCHEDULES AND ONE-LINE DIAGRAM.
	DRY TYPE TRANSFORMER. SEE ONE-LINE DIAGRAM.
	CONDUIT WITH WIRING RUN CONCEALED IN OR ABOVE CEILING OR WALL, OR RUN EXPOSED IN UNFINISHED AREAS. CROSS HATCHING INDICATES NUMBER OF CONDUCTORS (#12 AWG - MINIMUM). PROVIDE A CODE-SIZED GROUND WIRE IN ALL CONDUITS IN ADDITION TO THE CONDUCTORS SHOWN.
	CONDUIT WITH WIRING RUN CONCEALED BELOW FLOOR. CROSS HATCHING INDICATES NUMBER OF CONDUCTORS (#12 AWG - MINIMUM). PROVIDE A CODE-SIZED GROUND WIRE IN ALL CONDUITS IN ADDITION TO THE CONDUCTORS SHOWN.

RECEPTACLES	
SYMBOL	DESCRIPTION
	20A - 125V GROUNDING TYPE DUPLEX RECEPTACLE MOUNTED 18" AFF, UNLESS NOTED OTHERWISE
	20A - 125V GROUNDING TYPE QUADRAPLEX RECEPTACLE MOUNTED 18" AFF, UNLESS NOTED OTHERWISE
	20A - 125V GROUND FAULT INTERRUPTING TYPE DUPLEX RECEPTACLE MOUNTED 18" AFF, UNLESS NOTED OTHERWISE
	20A - 125V GROUND FAULT INTERRUPTING TYPE DUPLEX RECEPTACLE, WEATHER RESISTANT LISTED WITH DIE-CAST ALUMINUM "WHILE IN-USE COVER" AND MOUNTED 18" AFF, UNLESS NOTED OTHERWISE
	20A - 125V GROUNDING TYPE DUPLEX RECEPTACLE MOUNTED 6" ABOVE TOP OF COUNTER/BACKSPASH, UNLESS NOTED OTHERWISE. COORDINATE LOCATION WITH INTERIOR ELEVATIONS INDICATED ON ARCHITECTURAL PLANS. SUBSCRIPT "6GT" INDICATES TO PROVIDE A DUPLEX GROUND FAULT INTERRUPTING TYPE DEVICE.
	20A - 125V GROUNDING TYPE DUPLEX RECEPTACLE RECESSED MOUNTED FLUSH IN FINISHED CEILING, UNLESS NOTED OTHERWISE. RECEPTACLE AND FACEPLATE FINISH TO MATCH FINISH OF CEILING.
	20A - 125V GROUNDING TYPE DUPLEX RECEPTACLE WITH TAMPER RESISTANT LISTED AND MOUNTED 18" AFF, UNLESS NOTED OTHERWISE

LIGHT SWITCHES	
SYMBOL	DESCRIPTION
	20A - 120V/277V SINGLE POLE TOGGLE SWITCH MOUNTED 48" AFF, UNLESS NOTED OTHERWISE. IF APPLICABLE, LOWER CASE SUBSCRIPT "X" - KEYS SWITCH TO FIXTURES BEING CONTROLLED (TYPICAL OF ALL SWITCH SYMBOLS)
	20A - 120V/277V DOUBLE POLE TOGGLE SWITCH MOUNTED 48" AFF, UNLESS NOTED OTHERWISE.
	20A - 120V/277V THREE WAY SWITCH MOUNTED 48" AFF, UNLESS NOTED OTHERWISE.
	20A - 120V/277V FOUR WAY SWITCH MOUNTED 48" AFF, UNLESS NOTED OTHERWISE.
	120V/277V OCCUPANCY SENSING SWITCH MOUNTED 48" AFF, UNLESS NOTED OTHERWISE. TYPE AND RATING AS INDICATED ON PLANS.
	120V/277V OCCUPANCY SENSING SWITCH CEILING MOUNTED, UNLESS NOTED OTHERWISE. TYPE AND RATING AS INDICATED ON PLANS.
	20A - 120V/277V SINGLE POLE PILOT LIGHT SWITCH MOUNTED 48" AFF, UNLESS NOTED OTHERWISE. (2P - DOUBLE POLE, 3P - THREE WAY)
	TIMER SWITCH MOUNTED 48" AFF, UNLESS NOTED OTHERWISE. TYPE AND RATING PER LOAD BEING SERVED. WATT-STOPPER #TS-400.

OCCUPANCY SENSOR SCHEDULE						
DESIGNATION	MANUFACTURER	MODEL #	TECHNOLOGY	MOUNTING (HEIGHT)	VOLTAGE (V)	REMARKS
\$oc	WATTSTOPPER	PW-100	P	+48" AFF	120/277	-
Ⓞ	WATTSTOPPER	DT-300	D	CLG, CTR	24V DC	FURNISH & INSTALL B2-150 POWER PACK

- NOTES:
- INSTALL PER MANUFACTURER'S INSTRUCTIONS.
 - FURNISH AND INSTALL POWER MODULES AND ACCESSORIES AS REQUIRED FOR SENSOR BEING PROVIDED.
 - ADJUST SENSOR SETTINGS PER OWNER'S REQUIREMENTS. COMMISSION SENSORS IN THE PRESENCE OF THE OWNER'S REPRESENTATIVE.
 - BASIS OF DESIGN IS WATTSTOPPER. SEE SPECIFICATIONS FOR OTHER ACCEPTABLE MANUFACTURERS.

TECHNOLOGY LEGEND:
P - PASSIVE INFRARED
U - ULTRASONIC
D - DUAL TECHNOLOGY

FIRE EQUIPMENT	
SYMBOL	DESCRIPTION
	FIRE ALARM CONTROL PANEL
	FIRE ALARM ANNUNCIATOR PANEL RECESSED MOUNTED IN WALL
	FIRE ALARM NOTIFICATION APPLIANCE CIRCUIT EXTENDER PANEL SURFACE MOUNTED ON WALL
	FIRE ALARM MANUAL PULL STATION MOUNTED 48" AFF TO TOP.
	FIRE ALARM VISUAL (STROBE) NOTIFICATION APPLIANCE MOUNTED AT THE LESSOR OF 80" AFF TO BOTTOM OR 6" BELOW FINISHED CEILING. IF APPLICABLE, SUBSCRIPT "C" INDICATES CEILING MOUNTED APPLIANCE.
	FIRE ALARM AUDIO/VISUAL (HORN/STROBE) NOTIFICATION APPLIANCE MOUNTED AT THE LESSOR OF 80" AFF TO BOTTOM OR 6" BELOW FINISHED CEILING. IF APPLICABLE, SUBSCRIPT "C" INDICATES CEILING MOUNTED APPLIANCE.
	SMOKE DETECTOR WITH BASE MOUNTED FLUSH IN CEILING
	DUCT-TYPE SMOKE DETECTOR WITH REMOTE TEST STATION AND AUXILIARY RELAY FURNISHED AND WIRED BY ELECTRICAL CONTRACTOR. INSTALLED IN DUCTWORK BY MECHANICAL CONTRACTOR PER CODE. COORDINATE EXACT LOCATION WITH MECHANICAL CONTRACTOR AND MANUFACTURER. PROVIDE CONDUIT AND WIRING NECESSARY TO SHUT DOWN HVAC UNIT UPON ACTIVATION OF SMOKE DETECTOR.
	HEAT DETECTOR WITH BASE MOUNTED FLUSH IN CEILING. TEMPERATURE RATING AS REQUIRED FOR APPLICATION.
	ADDRESSABLE FIRE ALARM RELAY CONTROL MODULE WITH DRY CONTACT OUTPUT FOR ACTIVATING AUXILIARY DEVICES.
	ADDRESSABLE FIRE ALARM MONITOR MODULE TO SUPERVISE DRY CONTACT INPUT DEVICES.
	TAMPER SWITCH FURNISHED AND INSTALLED BY SPRINKLER CONTRACTOR. FURNISH AND INSTALL A FIRE ALARM MONITORING MODULE FOR INTEGRATION INTO FIRE ALARM SYSTEM.
	FLOW SWITCH FURNISHED AND INSTALLED BY SPRINKLER CONTRACTOR. FURNISH AND INSTLL A FIRE ALARM MONITORING MODULE FOR INTEGRATION INTO FIRE ALARM SYSTEM.

MISC. POWER	
SYMBOL	DESCRIPTION
	JUNCTION BOX - TYPE AND SIZE AS REQUIRED BY NEC
	PULL BOX - TYPE AND SIZE AS REQUIRED BY NEC
	MANUAL MOTOR STARTER TOGGLE SWITCH WITH THERMAL OVERLOAD PROTECTION - TYPE AND RATING PER EQUIPMENT BEING SERVED.
	DISCONNECT SWITCH - TYPE AND RATING AS INDICATED ON PLANS
	MAGNETIC STARTER WITH (2) NO & (2) NC CONTACTS - TYPE AND RATING AS INDICATED ON PLANS
	COMBINATION MAGNETIC STARTER/FUSE DISCONNECT SWITCH WITH HAND-OFF-AUTO SWITCH, (2) NO & (2) NC CONTACTS - TYPE AND RATING AS INDICATED ON PLANS.
	CONTROL RELAY - TYPE AND RATING AS INDICATED ON PLANS
	CONTACTOR - TYPE AND RATING AS INDICATED ON PLANS. SEE CONTACTOR SCHEDULE.
	MOTOR - TYPE AND RATING AS INDICATED ON PLANS
	MOTOR OPERATED DAMPER - FURNISHED AND INSTALLED BY MECHANICAL CONTRACTOR AND WIRED BY ELECTRICAL CONTRACTOR. TYPE AND RATING AS INDICATED ON PLANS. SEE MECHANICAL PLANS FOR CONTROL REQUIREMENTS.
	PUSH-BUTTON OR PUSH-PAD ASSEMBLY MOUNTED AT 48" AFF. TYPE AND RATINGS PER LOAD BEING SERVED. MAKE CONNECTIONS TO EQUIPMENT PER MANUFACTURER'S INSTRUCTIONS.

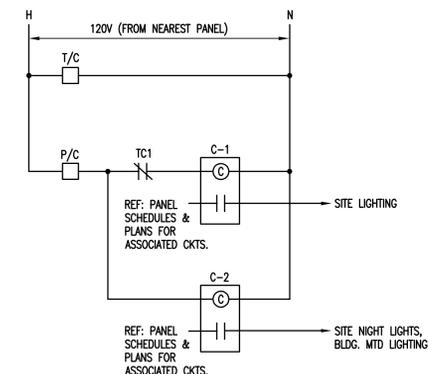
- ### GENERAL NOTES
- FINAL CONNECTIONS TO LIGHT FIXTURES SHALL BE MADE WITH GREENFIELD FLEXIBLE CONDUIT. MAXIMUM LENGTH OF FLEXIBLE CONDUIT SHALL BE 6'-0".
 - REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATION OF LIGHT FIXTURE LAY-OUT. CONTRACTORS TO COORDINATE LOCATIONS OF LIGHTING, SPEAKERS, AIR DIFFUSERS, GRILLES, SPRINKLER HEADS & THE LIKE, WITH REFLECTED CEILING LAY-OUTS AS REQUIRED & DIRECTED BY THE ARCHITECT.
 - ALL DEVICES, EQUIPMENT, FIXTURES, & THE LIKE, MUST BE GROUNDED BY USE OF A PROPERLY SIZED GROUNDING CONDUCTOR. MECHANICAL/ELECTRICAL BONDS OF THE METALLIC RACEWAY SYSTEM SHALL ALSO BE MAINTAINED.
 - REFER TO MECHANICAL AND PLUMBING PLANS FOR EXACT LOCATION OF MECHANICAL AND PLUMBING EQUIPMENT. COORDINATE LOCATION OF DISCONNECT SWITCH ASSOCIATED WITH EACH PIECE OF EQUIPMENT WITH MECHANICAL CONTRACTOR AND INSTALL IN ACCORDANCE WITH THE NEC.
 - REFER TO DIVISION 15 (22 & 23) SPECIFICATIONS, HVAC PLANS & PLUMBING PLANS FOR ADDITIONAL ELECTRICAL WORK REQUIREMENTS & COORDINATION.
 - ALL RECEPTACLES SHOWN BACK-TO-BACK IN WALLS SHALL BE SEPARATED HORIZONTALLY BY 8" MINIMUM.
 - WHERE OPEN WIRING METHODS FOR LOW VOLTAGE SYSTEMS ARE PERMITTED BY THE CONTRACT DOCUMENTS AND LOCAL AUTHORITY, THE CONDUCTOR INSULATION MUST BE PLENUM RATED. (REFERENCE NEC 300.22(c)(1))
 - BRANCH CIRCUIT CONDUCTOR SIZES (& CONDUITS) SHALL BE INCREASED FROM THOSE INDICATED ON THE PLANS TO PREVENT EXCESSIVE VOLTAGE DROP. BRANCH CIRCUITS SHALL BE INSTALLED WITH WIRES OF SUFFICIENT SIZE SO THAT VOLTAGE DROP BETWEEN THE PANEL & THE LOADS DO NOT EXCEED A LIMIT OF 3%.
 - REGARDLESS OF THE TEMPERATURE RATING OF THE CONDUCTOR INSULATION, ALL CONDUCTOR AMPACITY RATINGS FOR THIS PROJECT SHALL BE DETERMINED FROM THE 75°C CONDUCTOR TEMPERATURE RATINGS INDICATED IN THE NEC TABLES. WHERE EQUIPMENT OR DEVICES ARE PROVIDED WITH TERMINALS/LUGS RATED FOR 60°C, THE AMPACITY RATING OF THE 75°C CONDUCTOR SHALL BE LIMITED TO ITS ASSOCIATED 60°C RATING AS INDICATED IN THE NEC TABLES. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE TO INCREASE THE CONDUCTORS AND CONDUIT SIZE AS REQUIRED.
 - ALL 120V AND 277V BRANCH CIRCUITS SHALL BE PROVIDED WITH SEPARATE NEUTRAL CONDUCTORS. SHARED NEUTRALS WILL NOT BE PERMITTED FOR MULTI-CIRCUIT INSTALLATIONS. WHERE MULTIPLE CIRCUITS ARE RUN IN A COMMON RACEWAY, THE AMPACITY OF THE CONDUCTORS SHALL BE PROPERLY DERATED & CONDUIT SHALL BE SIZED PER CODE. REFERENCE NEC ARTICLE AND TABLE 310.15(b)(2)(g).
 - ALL CONDUITS SHALL CONTAIN A GROUND CONDUCTOR SIZED PER NEC TABLE #250.122. IN ADDITION, WHERE AN ISOLATED, INSULATED GROUND IS REQUIRED, A SEPARATE GROUND CONDUCTOR WITH GREEN INSULATION SHALL BE RUN FROM THE PANEL GROUND BUS TO THE ISOLATED GROUND CONNECTION OF THE DEVICE. IN NO CASE SHALL THE SYSTEM GROUND (CONDUCTOR & ASSOCIATED OUTLET BOXES, CONDUIT & BUILDING STEEL) BE ALLOWED TO CONTACT THE ISOLATED GROUND (CONDUCTOR & DEVICE), WHERE CIRCUIT CONDUCTORS ARE INCREASED IN SIZE FOR VOLTAGE DROP, THE GROUND CONDUCTOR SIZE SHALL BE INCREASED PROPORTIONATELY (ACCORDING TO CIRCULAR MIL AREA) FROM THE SIZE REQUIRED BY NEC TABLE #250.122.
 - EXACT WIRING REQUIREMENTS FOR ALL HVAC, PLUMBING AND OWNER FURNISHED EQUIPMENT SHALL BE VERIFIED WITH THE MANUFACTURER OF THE FURNISHED EQUIPMENT PRIOR TO ROUGH-IN.
 - THE ELECTRICAL CONTRACTOR SHALL FURNISH ALL ACCESS PANELS, AS REQUIRED FOR SERVICING AND TESTING, FOR EQUIPMENT AND/OR DEVICES FURNISHED UNDER HIS CONTRACT. THE GENERAL CONTRACTOR SHALL INSTALL ACCESS PANELS. THE ELECTRICAL CONTRACTOR SHALL COORDINATE THE SIZE AND LOCATION OF EACH ACCESS PANEL WITH THE ARCHITECT AND GENERAL CONTRACTOR PRIOR TO ROUGH-IN.
 - ELECTRICAL CONTRACTOR SHALL INCLUDE IN HIS BID ALL CUTTING, TRENCHING AND PATCHING ASSOCIATED WITH THE ELECTRICAL INSTALLATION.
 - ALL PENETRATIONS THROUGH FIRE RATED WALLS ASSOCIATED WITH THE ELECTRICAL INSTALLATION SHALL BE SLEEVED AND FIRE-STOPPED USING A UL APPROVED METHOD. UL APPROVED METHOD SHALL MEET OR EXCEED FIRE RATING OF STRUCTURE BEING PENETRATED. REFERENCE ARCHITECTURAL PLANS FOR FIRE RATED STRUCTURES. (REFERENCE NEC 300.21)
 - NEW CONDUIT/RACEWAY BEING INSTALLED SHALL BE CONCEALED WITHIN NEW AND EXISTING CONSTRUCTION. WHERE REQUIRED, INSTALL MC CABLE IN EXISTING STUD WALLS AND INSTALL SURFACE MOUNTED RACEWAY ON EXISTING BLOCK WALLS. WHEN THERE IS NO AVAILABLE OPTION BUT TO SURFACE MOUNT A VISIBLE RACEWAY, CONSULT ARCHITECT/ENGINEER FOR APPROVAL PRIOR TO INSTALLATION.
 - LIGHT FIXTURES SHALL BE SUPPORTED INDEPENDENTLY OF SUSPENDED CEILING OR THE SUSPENDED CEILING SHALL BE SUPPORTED WITHIN (6) INCHES OF EACH CORNER OF FIXTURE IN ACCORDANCE WITH ASTM C636-76 (LATEST REVISION).
 - PER ADAAG THE HEIGHT OF ALL ELECTRICAL OUTLETS, SWITCHES AND CONTROLS SHALL BE: A) A MAXIMUM 48" ABOVE THE FINISH FLOOR PER SECTION 4.2.5; B) MINIMUM 15" ABOVE FINISH FLOOR PER SECTION 4.27.3.
 - ALL EXISTING UNUSED ELECTRICAL WIRE, CONDUIT AND EQUIPMENT SHALL BE REMOVED COMPLETE.
 - WHERE PERMITTED BY THE OWNER AND LOCAL AUTHORITY, TYPE MC CABLE MAY BE FURNISHED AND INSTALLED IN CONCEALED ACCESSIBLE LOCATIONS IN LIEU OF CONDUIT AND WIRE WHERE A FINISHED AREA IS EXPOSED TO STRUCTURE, CONDUIT AND WIRE SHALL BE USED. WHERE CEILINGS ARE NOT ACCESSIBLE, CONDUIT AND WIRE SHALL BE USED.
 - RACEWAY PASSING FROM THE INTERIOR TO THE EXTERIOR OF THE BUILDING SHALL BE FILLED WITH AN APPROVED MATERIAL TO PREVENT THE CIRCULATION OF WARM AIR TO A COLDER SECTION OF THE RACEWAY. (REFERENCE NEC 300.7(A))

ELECTRICAL ABBREVIATIONS

A ----- AMPS	IG ----- ISOLATED GROUND
AC ----- AIR CONDITIONING UNIT	INCAND. ----- INCANDESCENT
AFC ----- ABOVE FINISH COUNTER	JB ----- JUNCTION BOX
AFF ----- ABOVE FINISH FLOOR	KCML ----- ONE THOUSAND CIRCULAR MILS
AFG ----- ABOVE FINISH GRADE	K.E.C. ----- KITCHEN EQUIPMENT CONTRACTOR
AHU ----- AIR HANDLING UNIT	KVA ----- KILOVOLT AMPERE
AC ----- AIR-CONDITIONING INTERRUPTING CURRENT	KW ----- KILOWATT
ARCH ----- ARCHITECTURAL	LTG ----- LIGHTING
ATS ----- AUTOMATIC TRANSFER SWITCH	MAIV ----- MASTER ANTENNA TV
AWG ----- AMERICAN WIRE GAGE	MAU ----- MAKE-UP AIR UNIT
BKR ----- BREAKER	MAX ----- MAXIMUM
BLDG. ----- BUILDING	MCB ----- MAIN CIRCUIT BREAKER
C ----- CONDUIT	MCC ----- MOTOR CONTROL CENTER
CAV ----- CABLE TELEVISION	M.C. ----- MECHANICAL CONTRACTOR
CCTV ----- CLOSED CIRCUIT TELEVISION	MECH. ----- MECHANICAL
CH ----- CHILLER	MFR ----- MANUFACTURER
CONTR. ----- CONTRACTOR	MH ----- METAL HALIDE
CT ----- COOLING TOWER	MIN ----- MINIMUM
CU ----- COPPER	ML ----- MAIN LUGS ONLY
CUH ----- CABINET UNIT HEATER	MOD ----- MOTOR OPERATED DAMPER
DE ----- DUAL ELEMENT	MSB ----- MAIN SWITCHBOARD
DN ----- DOWN	MTD ----- MOUNTED
DS ----- DISCONNECT SWITCH	NEC ----- NATIONAL ELECTRIC CODE
DWG. ----- DRAWING	NF ----- NON FUSED
(E) or EXIST. ----- EXISTING	NFPA ----- NATIONAL FIRE PROTECTION ASSOCIATION
EBB ----- ELECTRIC BASEBOARD	NIC ----- NOT IN CONTRACT
E.C. ----- ELECTRICAL CONTRACTOR	NL ----- NIGHTLIGHT
EF ----- EXHAUST FAN	NTS ----- NOT TO SCALE
EH ----- ELECTRIC HEATER	Ø or PH ----- PHASE
ELEC. ----- ELECTRICAL	P ----- POLE
EM ----- EMERGENCY	PB ----- PULL BOX
EMT ----- ELECTRICAL METALLIC TUBING	P.C. ----- PLUMBING CONTRACTOR
EQ ----- EQUAL	PNL ----- PANEL
ETR ----- EXISTING TO REMAIN	PRE ----- POWER ROOF EXHAUSTER
EUH ----- ELECTRIC UNIT HEATER	PVC ----- POLYVINYL CHLORIDE
EW ----- ELECTRIC WATER COOLER	RTU ----- ROOF TOP UNIT
EWI ----- ELECTRIC WATER HEATER	SPKR ----- SPEAKER
F ----- FUSE	SPST ----- SINGLE POLE SINGLE THROW
FA ----- FIRE ALARM	TIE ----- MULTIPLE OUTLETS WIRED ON SAME BRANCH CIRCUIT
FACP ----- FIRE ALARM CONTROL PANEL	TS ----- TAMPER SWITCH
FC ----- FAN COIL UNIT	TTB ----- TELEPHONE TERMINAL BOARD
FLUOR. ----- FLUORESCENT	TV ----- TELEVISION
FPB ----- FAN POWER BOX (VAV)	TYP. ----- TYPICAL
F.P.C. ----- FIRE PROTECTION CONTRACTOR	UH ----- GAS FIRED UNIT HEATER
FS ----- FLOW SWITCH	UL ----- UNDERWRITER'S LABORATORY
FT ----- FOOT/FEET	UNO ----- UNLESS NOTED OTHERWISE
G.C. ----- GENERAL CONTRACTOR	UV ----- UNIT VENTILATOR
GFI ----- GROUND FAULT INTERRUPTING PROTECTION	V ----- VOLTS
GND ----- GROUND	W ----- WATTS
HD ----- HIGH INTENSITY DISCHARGE	WP ----- WEATHERPROOF TYPE DEVICE (NEMA 3R RATED)
HOA ----- HAND-OFF-AUTOMATIC	X'FMR ----- TRANSFORMER
HP ----- HORSEPOWER	
HPS ----- HIGH PRESSURE SODIUM	
HVAC ----- HEATING, VENTILATION, AIR CONDITIONING	

CONTACTOR SCHEDULE						
DESIGNATION	CONTACT AMPERE RATING	NO. OF POLES	CONTACT VOLTAGE RATING	COIL VOLTAGE RATING	FUNCTION	CONTROL
C-1	30A	6	600V	120V	SITE LIGHTING	P.C. ON/ T.C. OFF
C-2	30A	3	600V	120V	SITE LIGHTING	P.C. ON/OFF

- NOTES:
- MOUNT CONTACTORS IN PROPER NEMA ENCLOSURE FOR ENVIRONMENT AND ADJACENT TO ASSOCIATED BRANCH CIRCUIT PANEL.
 - ALL CONTACTORS SHALL BE MECHANICALLY-HELD WITH 2-WIRE CONTROL MODULE.
 - ACCEPTABLE MANUFACTURERS ARE SQUARE "D" AND ASSO.



T/C - TIMECLOCK, INTERMATIC #E171C MOUNTED ADJACENT TO PANEL "1F".
P/C - PHOTOCCELL, INTERMATIC #K4221 MOUNTED AT ROOF. FACE SENSOR NORTH.

SITE LIGHTING CONTROL DIAGRAM

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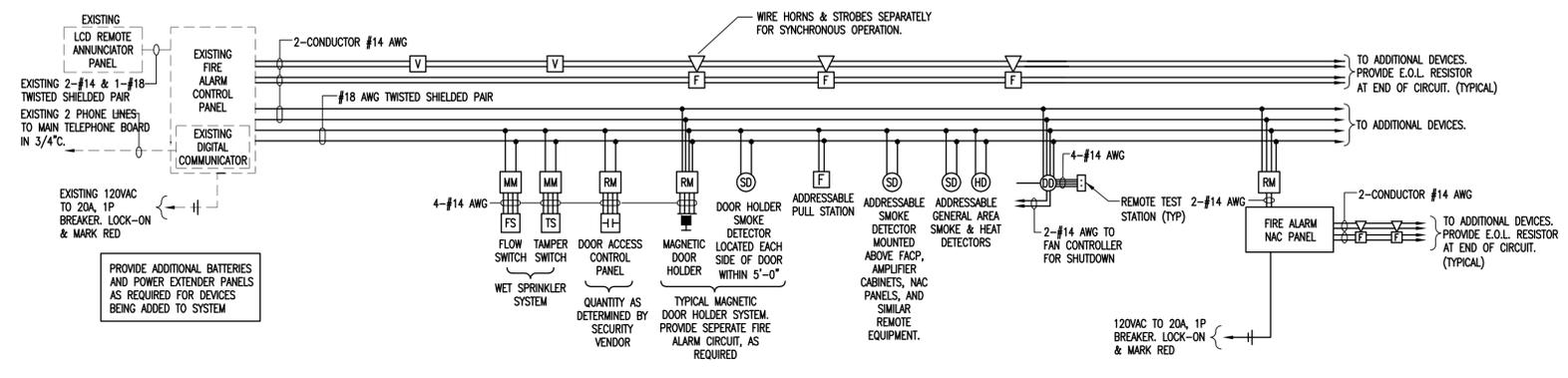
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ELECTRICAL
DETAILS, NOTES
& SCHEDULES
E-201



LIGHTING FIXTURE SCHEDULE						
TYPE	LOAD (VA)	LAMPS		MANUFACTURER	CATALOG NUMBER	DESCRIPTION
		NO.	TYPE			
A	60	2	32W T8	LITHONIA OR APPROVED EQUAL BY: COLUMBIA DAY-BRITE METALUX	2WRT-G-232-A12125-MVOLT-GEB10IS	2'x4' FLUORESCENT WET LOCATION LENSED TROFFER WITH 0.125" THICK PRISMATIC ACRYLIC LENS, GRID MOUNTING, WHITE FLUSH ALUMINUM WITH MITERED CORNERS, HIGH REFLECTANCE BAKED WHITE ENAMEL FINISH, NEOPRENE GASKETING BETWEEN LENS, DOOR FRAME, HOUSING AND MOUNTING SURFACE AND (1) 2-LAMP 120/277V ELECTRONIC BALLAST. 120V.
A1	90	3	32W T8	LITHONIA OR APPROVED EQUAL BY: COLUMBIA DAY-BRITE METALUX	2WRT-G-332-A12125-MVOLT-GEB10IS	2'x4' FLUORESCENT WET LOCATION LENSED TROFFER WITH 0.125" THICK PRISMATIC ACRYLIC LENS, GRID MOUNTING, WHITE FLUSH ALUMINUM WITH MITERED CORNERS, HIGH REFLECTANCE BAKED WHITE ENAMEL FINISH, NEOPRENE GASKETING BETWEEN LENS, DOOR FRAME, HOUSING AND MOUNTING SURFACE AND (1) 3-LAMP 120/277V ELECTRONIC BALLAST. 120V.
A/EM	60	2	32W T8	LITHONIA OR APPROVED EQUAL BY: COLUMBIA DAY-BRITE METALUX	2WRT-G-232-A12125-MVOLT-GEB10IS-EM	SIMILAR TO TYPE A EXCEPT WITH INTEGRAL EMERGENCY BATTERY PACK. 120V.
B	60	2	32W T8	LITHONIA OR APPROVED EQUAL BY: COLUMBIA DAY-BRITE METALUX	WRT-F-232-A12125-MVOLT-GEB10IS	1'x4' FLUORESCENT WET LOCATION LENSED TROFFER WITH 0.125" THICK PRISMATIC ACRYLIC LENS, FLANGE MOUNTING, WHITE FLUSH ALUMINUM WITH MITERED CORNERS, HIGH REFLECTANCE BAKED WHITE ENAMEL FINISH, NEOPRENE GASKETING BETWEEN LENS, DOOR FRAME, HOUSING AND MOUNTING SURFACE AND (1) 2-LAMP 120/277V ELECTRONIC BALLAST. 120V.
C	30	1	26W T8	PRESCOLITE CAPRI LITHONIA PORTFOLIO	LF6CFH132EB-6CFH1-PL CM6-F126/32/42-U-H66P LF6N-1/26-42TRT-F8LS73-MVOLT C6142-E-6181-U	6" DIA. COMPACT FLUORESCENT RECESSED LENSED DOWNLIGHT, LOW IRIDESCENT CLEAR ALZAK ALUMINUM REFLECTOR, WHITE POLYCARBONATE TRIM RING, PRISMATIC LENS, WET LOCATION LISTED AND (1) 1-LAMP 120/277V ELECTRONIC BALLAST. NOTE: INSTALL ALL FIXTURES IN THE SAME ROOM AND/OR WITHIN SIGHT OF EACH OTHER SUCH THAT LAMPS ARE ALL ORIENTED IN THE SAME DIRECTION, PARALLEL TO THE CEILING GRID WHERE THERE IS A CEILING GRID. 120V.
D	90	3	32W T8	COLUMBIA DAY-BRITE LITHONIA METALUX	4PS-24-332-G-FS-A12.125-3E-U 2SP-G-332-FS12-UNV-1/3-EB10I 2SP8-G-332-A12125-MVOLT-1/3-GEB10IS 2-GR8-332-A125-UNV-EB81	2'x4' FLUORESCENT LENSED TROFFER WITH 0.125" THICK PRISMATIC ACRYLIC LENS, GRID MOUNTING, WHITE FLAT STEEL DOOR FRAME WITH MITERED CORNERS, HIGH REFLECTANCE BAKED WHITE ENAMEL FINISH, AND (1) 3-LAMP 120/277V ELECTRONIC BALLAST. 120V.
EX	4	-	LED (WITH UNIT)	SURE-LITES OR APPROVED EQUAL BY: DUAL-LITE MCPHILBEN LITHONIA	LFX-7-0-R-WH	THERMOPLASTIC LED EXIT SIGN WITH UNIVERSAL MOUNTING, RED LETTERS ON A WHITE STENCIL FACE, CHEVRON KNOCKOUTS, SELF-TEST/SELF-DIAGNOSTICS, NICKEL CADMIUM BATTERY, AND 120/277V INPUT. NOTE: MOUNTING, NUMBER OF FACES, AND CHEVRONS AS INDICATED ON PLANS. VERIFY PRIOR TO ORDERING. 120V INPUT.
EM	20	2	10W MR16 (WITH UNIT)	DUAL-LITE MCPHILBEN LITHONIA SURE-LITES	LZ30-10W CAX6H ELM618 CCA-WH-MRT	WALL MOUNTED EMERGENCY LIGHTING UNIT WITH TWO ROUND WHITE THERMOPLASTIC ADJUSTABLE LAMP HEADS, WHITE THERMOPLASTIC HOUSING, SELF-TEST/SELF-DIAGNOSTICS, LEAD CALCIUM BATTERY, AND 120/277V INPUT. NOTE: AIM HEADS AS REQUIRED FOR PROPER ILLUMINATION ALONG PATH OF EGRESS. ADJUST AS REQUIRED PER AHJ. 120V INPUT.
F	60	2	32W T8	COLUMBIA DAY-BRITE LITHONIA METALUX	KL-4-232-2E-U-KHC 1FD-232-PP-UNV-1/2-EB10I-FL-123 EJA-232-1/2-GEB10IS DI-232-UNV-EB81	4' L SUSPENDED CHAIN-HUNG INDUSTRIAL FLUORESCENT FIXTURE WITH TWO LAMPS PER CROSS SECTION, PAINTED POLYESTER REFLECTOR WITH STIFFENING RIBS, 10% UPLIGHT, HEAVY-DUTY DIE FORMED STEEL CHANNEL, CONTINUOUS ROW MOUNTING WHERE SHOWN ON PLANS, CHAIN HANGER KIT, BAKED WHITE ENAMEL FINISH, AND (1) 2-LAMP 120/277V ELECTRONIC BALLAST. 120V.
S1	185	1	150W M.H.	US ARCHITECTURAL LTC	LUMINAIRE: RSBPT318-VSQ-150PSMH-208-PTA-XX POLE: RNTS-144-11-PTA-XX-RBC	ONE PULSE START METAL HALIDE LUMINAIRE WITH FULL CUT-OFF, DIE-CAST ALUMINUM HOUSING AND DOOR FRAME, TEMPERED FLAT GLASS LENS, DOOR GASKETING, MULTIFACE OPTICAL SYSTEM WITH TYPE V IES LIGHT DISTRIBUTION AND HPF BALLAST POST TOP MOUNTED ON A ROUND STRAIGHT 14FT WITH A ROUND BASE COVER. FIXTURES AND POLE TO HAVE A PAINT FINISH ("XX") AS DIRECTED BY THE ARCHITECT. INCLUDE (1) PORTABLE LOWERING WINCH AND TURN OVER TO OWNER FOR FUTURE MAINTENANCE. 208V

LIGHTING FIXTURE SCHEDULE NOTES:

- REFER TO ARCHITECTURAL REFLECTED CEILING PLAN AND/OR ROOM FINISH SCHEDULE TO DETERMINE PROPER TYPE OF LIGHT FIXTURE REQUIRED FOR THE CEILING CONSTRUCTION PRIOR TO ORDERING THE FIXTURES & PROVIDE FIXTURES THAT ARE COMPATIBLE WITH THE CEILING SYSTEM.
- ALL BALLASTS FOR LINEAR AND COMPACT FLUORESCENT LAMPS SHALL BE INSTANT START WITH LESS THAN 10% THD. ALL SUCH BALLASTS FOR EXTERIOR FIXTURES SHALL BE COLD WEATHER BALLASTS RATED FOR 0°F OR LOWER. SEE ELECTRICAL SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
- ALL LIGHTING FIXTURES UTILIZING DOUBLE ENDED FLUORESCENT LAMPS SHALL BE PROVIDED WITH AN INTEGRAL DISCONNECTING MEANS INSTALLED BY THE FIXTURE MANUFACTURER. FOR SAID FIXTURES WHERE AN INTEGRAL DISCONNECTING MEANS IS NOT AVAILABLE BY THE MANUFACTURER, THE E.C. SHALL FURNISH AND INSTALL A LOCAL EXTERNAL DISCONNECTING MEANS AS REQUIRED PER NEC 410.
- ALL MR16 LAMPS SHALL BE 10,000 HOUR LAMPS.
- OTHER FIXTURE MANUFACTURERS WILL BE CONSIDERED, PROVIDED THAT THE FIXTURES SUBMITTED MEET OR EXCEED THE QUALITY, PERFORMANCE, AND AESTHETICS OF THE SPECIFIED STANDARDS AS DETERMINED BY THE ENGINEER AND ARCHITECT. PHOTOMETRIC CALCULATIONS MAY BE REQUIRED FOR SOME FIXTURE TYPES AS PART OF SHOP DRAWING SUBMITTALS AS DETERMINED BY THE ENGINEER.
- WHERE LIGHT FIXTURES ARE NOTED TO HAVE EMERGENCY BALLASTS THE EMERGENCY BALLASTS SHALL PROVIDE A MINIMUM OF NINETY (90) MINUTES OF CODE REQUIRED EMERGENCY LIGHTING. EACH EMERGENCY BALLAST PROVIDED SHALL PRODUCE THE MAXIMUM LUMEN OUTPUT AVAILABLE FOR THE LAMP USED. EMERGENCY LIGHTING BALLASTS SHALL BE BODINE OR APPROVED EQUAL.



TYPICAL FIRE ALARM DEVICE WIRING DIAGRAM

- NTS
- INDICATES EXISTING EQUIPMENT/CONDUIT/WIRING, UNLESS INDICATED OTHERWISE
 - INDICATES EQUIPMENT/CONDUIT/WIRING INSTALLED UNDER THIS CONTRACT

FIRE ALARM SYSTEM NOTES

- THE FIRE ALARM SYSTEM MUST BE INSTALLED IN ACCORDANCE WITH PLANS AND SPECIFICATIONS AND MUST MEET ALL STATE & LOCAL CODE REQUIREMENTS. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE ALL CODE REQUIRED DOCUMENTS INCLUDING, BUT NOT LIMITED TO THE FOLLOWING:
 - A FLOOR PLAN WHICH INDICATES THE USE OF ALL ROOMS.
 - LOCATIONS OF ALARM-INITIATING AND NOTIFICATION APPLIANCES.
 - ALARM CONTROL AND TROUBLE SIGNALING EQUIPMENT.
 - ANNUNCIATION.
 - POWER CONNECTION.
 - BATTERY CALCULATIONS.
 - CONDUCTOR TYPE AND SIZES.
 - VOLTAGE DROP CALCULATIONS.
 - MANUFACTURERS, MODEL NUMBERS AND LISTING INFORMATION FOR EQUIPMENT, DEVICES AND MATERIALS.
 - DETAILS OF CEILING HEIGHT AND CONSTRUCTION.
 - THE INTERFACE OF FIRE SAFETY CONTROL FUNCTIONS.
 THESE DOCUMENTS MUST BE PREPARED BY A CERTIFIED FIRE ALARM DESIGNER AND MUST BE SUBMITTED TO THE LOCAL AUTHORITIES FOR REVIEW AND APPROVAL PRIOR TO ROUGH-IN OF SYSTEM.
- ALL WIRING SHALL BE IN CONDUIT & SHALL BE SIZED PER THE NATIONAL ELECTRIC CODE. DO NOT RUN ANY OTHER WIRING IN THE SAME CONDUIT WITH ALARM WIRING. DO NOT RUN 120VAC WIRING WITH ALARM WIRING. ALL WIRE TO BE SHIELDED CABLE. ALL J-BOXES ASSOCIATED WITH THE FIRE ALARM SYSTEM SHALL BE SPRAY PAINTED "FIRE ENGINE" RED.
- ALL WIRE & CABLE MUST BE RATED PER THE LATEST REVISION OF THE NATIONAL ELECTRIC CODE SECTION 760.
- CONFIRM ALL WIRING REQUIREMENTS WITH PROPOSED FIRE ALARM SUPPLIER PRIOR TO BID AND PROVIDE IN ACCORDANCE THEREWITH. WIRING SHOWN ON THIS DIAGRAM REPRESENTS THE MINIMUM SIZE REQUIRED. WIRE SIZES SHALL BE INCREASED AS REQUIRED FOR VOLTAGE DROP.
- WIRING SHALL BE CONTINUOUS FROM ONE DEVICE TO THE NEXT. SPLICING IS PROHIBITED.
- THE TYPICAL WIRING DIAGRAM IS NOT INTENDED TO SHOW QUANTITIES OF DEVICES. REFER TO PLANS FOR EXACT QUANTITIES.
- ALL CONDUCTORS INCLUDING SHIELDS MUST TEST FREE OF OPENS, SHORTS & GROUNDS BEFORE MAKING CONNECTIONS TO THE FIRE ALARM CONTROL PANEL.
- EACH FIRE ALARM PANEL REQUIRES A DEDICATED 120VAC CIRCUIT. RUN 3-#12 (INCLUDES THE GREEN GROUND WIRE) FROM A 20 AMP CIRCUIT BREAKER. PROVIDE A LOCK-ON CLIP & RED MARKING ON THE BREAKER.
- SMOKE DETECTOR HEADS MUST BE INSTALLED FREE OF DUST OR ANY OTHER CONTAMINATION. SMOKE DETECTORS SHALL NOT BE MOUNTED WITHIN 3'-0" OF A SUPPLY OR RETURN AIR GRILLE. COORDINATE SMOKE DETECTOR LOCATIONS WITH MECHANICAL CONTRACTOR PRIOR TO INSTALLATION.
- IN ALL ROOMS REQUIRING SMOKE DETECTION, IF THERE IS NOT A SMOOTH, FLAT CEILING, THEN DETECTION SHALL BE SPACED PER NFPA 72. IF THERE ARE BEAM DEPTHS LESS THAN 10% OF THE CEILING HEIGHT (0.1 X H), SMOOTH CEILING SPACES SHALL BE PERMITTED. IF THERE ARE BEAM DEPTHS EQUAL OR GREATER THAN 10% OF THE CEILING HEIGHT (0.1 X H), AND THE BEAM SPACING IS EQUAL TO OR GREATER THAN 40% OF THE CEILING HEIGHT (0.4 X H), SPOT SMOKE DETECTORS SHALL BE LOCATED ON THE CEILING IN EACH BEAM POCKET PER NFPA 72 2007, 5.7.3.2.4.
- HORN AND STROBES SHALL BE WIRED SEPARATELY FOR SYNCHRONOUS OPERATION. PROVIDE SYNCHRONIZATION MODULES AS REQUIRED TO COMPLY WITH CODE.
- DUCT DETECTORS SHALL HAVE REMOTE TEST STATIONS INSTALLED IN AN ACCESSIBLE LOCATION AND BE CLEARLY LABELED TO INDICATE THEIR FUNCTION AND THE MECHANICAL UNIT ASSOCIATED WITH EACH DETECTOR.
 - DUCT DETECTOR TEST STATIONS SHALL BE LOCATED AS CLOSE TO THE APPLIANCES AS POSSIBLE FOR EASE IN LOCATING AND UNLESS ASSOCIATED WITH ROOF TOP MECHANICAL UNITS.
 - IF THERE IS A DROP CEILING, THE REMOTE TEST STATIONS SHALL BE MOUNTED IN CEILING TILES BELOW THE DUCT DETECTORS.
 - IF THERE IS A HARD CEILING, THE REMOTE TEST STATIONS SHALL BE LOCATED IN THE CEILING NEXT TO A MINIMUM OF A 2'x4' OR 3'x3' ACCESS PANEL LOCATED BELOW THE DUCT DETECTOR.
 - IF THERE IS NO CEILING, THE REMOTE TEST STATIONS SHALL BE MOUNTED ON A PILLAR OR WALL AS CLOSE TO THE DEVICE AS POSSIBLE.
- THE LOCATION OF ALL DETECTORS IN AIR DUCT SYSTEMS SHALL BE PERMANENTLY AND CLEARLY IDENTIFIED AND RECORDED.
- LOCATIONS OF ALL FIRE ALARM REMOTE TEST STATIONS SHALL BE LABELED PER LOCAL AUTHORITY REQUIREMENTS. TEST STATION LOCATIONS SHALL BE FIELD VERIFIED WITH LOCAL AUTHORITY PRIOR TO ROUGH-IN.
- DUCT DETECTORS SHALL BE INSTALLED AND POSITIONED TO ALLOW EASY ACCESS FOR PERIODIC INSPECTION AND TESTING.
- FURNISH AND INSTALL A KNOX BOX AS REQUIRED BY LOCAL FIRE DEPARTMENT. EXACT QUANTITIES AND LOCATIONS AS DETERMINED BY LOCAL AUTHORITY. KNOX BOX MANUFACTURER SHALL BE AS REQUIRED BY LOCAL AUTHORITY. PROVIDE AN ADDRESSABLE MONITOR MODULE WHEN REQUIRED.
- THE FIRE ALARM SUPPLIER SHALL PROVIDE A COPY OF THE PROGRAMMING CODES AND OPERATION MANUALS IN A SLEEVED BINDER ATTACHED TO THE FIRE ALARM CONTROL PANEL.
- ALL DEVICES TO BE FIELD TESTED WITH WRITTEN CERTIFICATION OF SYSTEM. PERFORM ALL TESTS IN THE PRESENCE OF THE AUTHORITY HAVING JURISDICTION.
- PROVIDE CONNECTION TO REMOTE SUPERVISION AS DIRECTED FOR SUPERVISION OF SYSTEM IN COMPLIANCE WITH LOCAL AUTHORITY & OWNER. PROVIDE ALL INTERFACE REQUIRED TO INITIATE REMOTE SUPERVISION.
- PROVIDE & INSTALL A CEILING MOUNTED SMOKE DETECTOR IN FRONT OF FIRE ALARM CONTROL PANEL AND EACH REMOTE MOUNTED AUXILIARY PANEL IN ADDITION TO THE DEVICES SHOWN ON THE FLOOR PLANS.
- PROVIDE & INSTALL MANUAL STATIONS WHERE REQUIRED BY LOCAL AUTHORITIES TO MEET THE REQUIREMENTS OF NFPA-72 SECTION 3-8.1.2 IN ADDITION TO THE DEVICES SHOWN ON THE PLANS. VERIFY WITH LOCAL AUTHORITY PRIOR TO BIDDING & INDICATE COST IN BID PRICE.
- NEW DEVICES SHALL MATCH AND BE COMPATIBLE WITH EXISTING SYSTEM.
- FURNISH AND INSTALL NEW POWER EXTENDER PANEL AND/OR BATTERIES AS REQUIRED TO INCORPORATE NEW DEVICES INTO EXISTING SYSTEM. CONFIRM SCOPE WITH FIRE ALARM VENDOR.



March 7, 2013

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ELECTRICAL
ONE-LINE
DIAGRAM

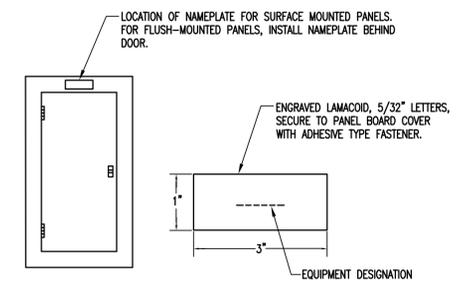
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EXISTING PANELBOARD DESIGNATION 1C

120/208 VOLTS		3 PH.	4 WIRE SOLID NEUTRAL	MOUNTING: FLUSH	SURFACE			
225 AMPERE BUS		225 AMPERE MAIN	LUGS					
SPECIAL REQUIREMENTS								
QTY	KVA	DESCRIPTION	A	B	C	DESCRIPTION	KVA	QTY
1	-	LIGHTING RM 166				LIGHTING RM 168	-	2
3	-	LIGHTING RM 163				RECEPTACLE-WASHER	-	4
5	-	LIGHTING RM 164,165				GFI RECEPTACLE RM 165	-	6
7	-	RECEPTACLE HALL 148				GFI RECEPTACLE 159	-	8
9	-	HAIR DRYER RM 166				GFI RECEPTACLE 159	-	10
11	-	HAIR DRYER RM 166				HAND DRYER RM 159	-	12
13	-	RECEPTACLE RM 168				HAND DRYER RM 165	-	14
15	-	GFI RECEPTACLE 166				GFI RECEPTACLE RM 158	-	16
17	-	GFI RECEPTACLE 165				RECEPTACLE RM 158	-	18
19	-	HAIR DRYER RM 158				LIGHTING RM 158	-	20
21	-	HAIR DRYER RM 158				CONTROL PWR - STEAM	-	22
23	-	LIGHTING RM 162				HAIR DRYER RM 160	-	24
25	-	LIGHTING RM 161				HAIR DRYER RM 160	-	26
27	-	LIGHTING RM 159				SPACE	-	28
29	-	DRYER RM 168				GYM CURTAIN	-	30
31	-						-	32
33	0.5	NEW SITE LIGHTING				EXIST'G SITE LIGHTING	0.6	34
35	0.5						0.6	36
37	0.2	SITE LTG CONTROLS				EXIST'G SITE LIGHTING	0.6	38
39	0.2	RECEPTACLE					0.6	40
41	0.2	FEATURE CTRL. PWR				RECEPTACLE	0.2	42
KVA SUB TOTALS								
TOTAL CONNECTED LOAD								

- ### PANELBOARD NOTES
1. [1] INDICATES BREAKER SHALL BE "SWD" RATED.
 2. [2] INDICATES BREAKER SHALL BE "HACR" RATED.
 3. [3] INDICATES BREAKER SHALL BE 30 mA "G.F.I." TYPE.
 4. [4] INDICATES BREAKER SHALL BE SHUNT-TRIP TYPE.
 5. [5] INDICATES FURNISH & INSTALL NEW BREAKER. BREAKER TO MATCH AIC, TYPE & RATINGS OF EXISTING DEVICES WITHIN PANEL.
 6. [6] INDICATES BREAKER TO HAVE LOCK-ON CLIP.
 7. [7] INDICATES BREAKER TO HAVE LOCK-ON CLIP AND RED MARKING.
 8. "C-#" INDICATES DESIGNATION OF CONTACTOR CONTROLLING CIRCUIT. SEE CONTACTOR SCHEDULE.
 9. ALL BREAKERS SHALL BE 20A/1P, UNLESS NOTED OTHERWISE.

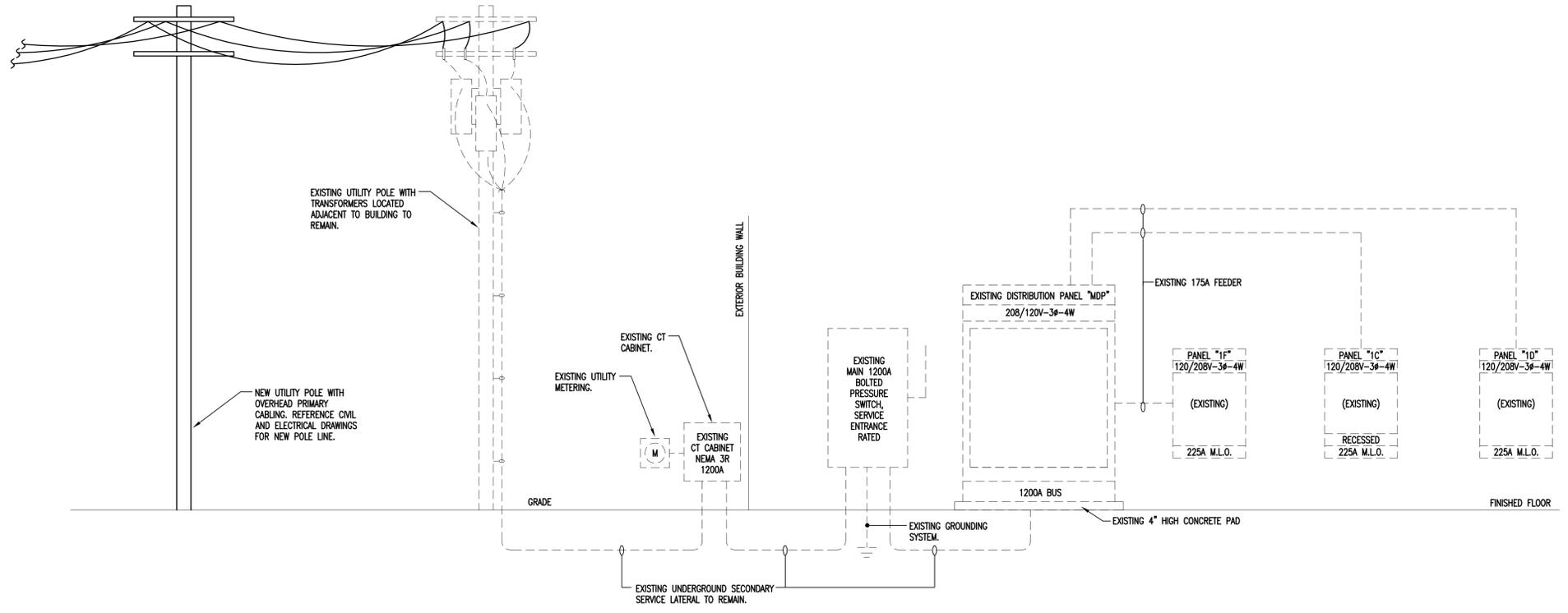


NOTE:
NAMEPLATES ARE REQUIRED ON ALL SWITCHBOARDS, DISTRIBUTION PANELS, PANEL BOARDS, STARTERS, DISCONNECT SWITCHES, RELAYS AND JUNCTION BOXES GREATER THAN 4 11/16" SQUARE. ALSO PROVIDE NAMEPLATES ON BRANCH SWITCHES OF SWITCHBOARDS AND DISTRIBUTION PANELS.

- STANDARD COLORS:**
1. NORMAL POWER - BLACK BACKGROUND, WHITE LETTERS
 2. EMERGENCY POWER - RED BACKGROUND, WHITE LETTERING
 3. IN ADDITION TO THE FUNCTION NAMEPLATE, PROVIDE NAMEPLATES IDENTIFYING ALL "MAIN SERVICE" NAMEPLATE DISCONNECTS" - RED BACKGROUND - WHITE LETTERING

NAMEPLATE DETAIL
N.T.S.

- ### ONE-LINE DIAGRAM NOTES
1. THE ELECTRICAL CONTRACTOR SHALL VERIFY ALL POWER COMPANY REQUIREMENTS PRIOR TO BIDDING & INCLUDE THE COST OF ALL ASSOCIATED LABOR, MATERIALS, & CHARGES IN HIS BID.
 2. THE ELECTRICAL CONTRACTOR SHALL VERIFY THE AVAILABLE FAULT CURRENT WITH THE UTILITY COMPANY PRIOR TO BIDDING AND PROVIDE EQUIPMENT RATED ACCORDINGLY. SUBMIT FAULT CURRENT CALCULATIONS WITH SHOP DRAWING SUBMITTAL.
 3. ALL BUSSING SHALL BE COPPER.
 4. PROVIDE FULL LENGTH VERTICAL BUSSING IN ALL SWITCHBOARDS, DISTRIBUTION PANELS, & PANELBOARDS.
 5. PROVIDE FULL SIZE HORIZONTAL BUSSING IN ALL SWITCHBOARDS.
 6. ALL CIRCUIT BREAKERS SHALL BE BOLT-ON TYPE.
 7. ALL WALL-MOUNTED EQUIPMENT SHALL BE MOUNTED ON 3/4" FIRE RATED BACKBOARD.
 8. ALL FLOOR-MOUNTED EQUIPMENT SHALL BE MOUNTED ON 4" HIGH CONCRETE HOUSEKEEPING PAD.
 9. PROVIDE NAMEPLATES PER NAMEPLATE DETAIL.
 10. COORDINATE SPACE WITH ALL OTHER TRADES TO MAINTAIN ALL CODE-REQUIRED CLEARANCES.
 11. REFER TO ELECTRICAL SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
 12. THE ELECTRICAL CONTRACTOR SHALL PROVIDE FINAL SETTINGS REQUIRED FOR ALL ADJUSTABLE/ELECTRONIC TYPE CIRCUIT BREAKERS WITH LONGTIME, SHORT TIME, GF, INSTANTANEOUS, ETC. THE ELECTRICAL CONTRACTOR SHALL PROVIDE FINAL COORDINATION STUDY.
 13. THE ELECTRICAL CONTRACTOR SHALL COMPLY WITH NEC ARTICLE 110.16 FOR LABELING OF PANELS FOR ARC FLASH HAZARD WARNING AS WELL AS FOLLOWING REQUIRED SAFETY PRECAUTIONS WHEN SERVICING OR MAINTAINING ELECTRICAL EQUIPMENT.



PARTIAL ELECTRICAL ONE-LINE DIAGRAM
N.T.S.

- - - - - INDICATES EXISTING EQUIPMENT/CONDUIT/WIRE, UNLESS NOTED OTHERWISE
- INDICATES EQUIPMENT/CONDUIT/WIRE INSTALLED UNDER THIS CONTRACT

ELECTRICAL SPECIFICATIONS

Section 13851 – Alarm System

- A. Fire Alarm System
- This contractor shall submit fire alarm system drawings and specification to the local fire department for their approval before installation of any fire alarm components or wiring.
 - Equipment: all devices, combinations of devices, appliances and equipment shall be listed for the purpose for which they are used and shall be installed in compliance with applicable codes and standards.
 - Expand upon the existing system to provide a complete, supervised, power-limited, fire alarm system. All equipment herein specified is that of Simplex Time Recorder Co. for bidding purposes only. Equipment supplied shall be by the same manufacturer as is currently installed within the building and meet or exceed the quality of the Simplex equipment specified. Field verify whether existing system is an addressable or conventional type. Drawings indicate an addressable system. Provide wiring and components to match the existing system as directed by the fire alarm system manufacturer's representative.
 - The fire alarm system shall be an electrically supervised system, which shall monitor the integrity of circuit conductors and power supplies.
 - The installation organization shall be a company specializing in the installation of fire alarm systems. This organization shall have a minimum of five years experience with installation of such systems.
 - The contractor shall provide and maintain on the site an up-to-date record set of approved shop drawings.
 - Record drawings shall include location of end-of-line device locations. Upon completion of the work, and final acceptance by the local authority, the contractor shall submit record drawings to the owner.
 - Existing control panel and DACT to remain. Provide new power supply, as required, which shall be adequate to serve control panel modules, relays and alarm indicating appliances. Provide new batteries, as required, to provide a secondary emergency power supply with capacity for operating system in stand-by mode for 24 hours followed by alarm mode for ten minutes.
 - LCD annunciator panel shall be Simplex #4606-9101 with Simplex #4603-9111 brushed aluminum trim plate.
 - Addressable pull stations shall be semi-flush, action push/pull type, simplex #4099-9003.
 - Smoke detectors shall be analog photoelectric type, Simplex #4098-9710.
 - Analog heat detectors shall be 135 degrees F fixed temperature with rate-of-rise type, Simplex #4098-9733 with addressable base, Simplex #4098-9788.
 - Duct-mounted smoke detectors shall have a base with auxiliary relay (Simplex Type 4098-9750), analog photoelectric detector (Simplex Type 4098-9714), and sampling tubes (length as required).
 - Duct detector remote key reset/test station with alarm LED shall be Simplex Type 2098-9806.
 - Semi-flush audio/visual unit shall be Simplex Type 4903-9301 Series with A.D.A. complying 15/75 Candela strobe and horn. All strobe lights shall be synchronized. Provide weatherproof type devices where required.
 - Visual only unit shall be Simplex Type 4904-9307 with A.D.A. complying 19 1/2 Candela strobe. All strobe lights shall be synchronized. provide weatherproof covers where required.
 - Waterflow and temper switches shall be furnished and installed by the sprinkler contractor. The electrical contractor shall connect each device to the fire alarm system using an individual addressable module (IAM) Simplex #4090-9001.
 - Provide and install wiring per manufacturers' specifications. All wiring shall be in conduit (3/4" minimum).
 - The completed fire alarm system shall be fully tested in accordance with NFPA 72H, and local fire department requirements, by the installer, in the presence of the owner's representative and the local fire marshal. Upon completion of a successful test, the installer shall so certify, in writing, to the owner and general contractor.
 - Include on-site services of a certified technician to provide technical installation support for panel start up, program editing, troubleshooting of the fire alarm system control panel, and assistance to the installer for one complete final system checkout in accordance with the field quality control section of these specifications.
 - Acceptable manufacturers/suppliers shall be Simplex, Notifier (as supplied by a certified Nesco affiliate), Silent Knight, EST or Siemens.

Section 16010 – General Provisions

- A. General
- Requirements specified in Division 1, instructions to bidders, supplemental general conditions, special conditions, addenda, alternates, contract and proposal, along with Division 16 and all its sections, comprise the contract documents for the electrical contract, along with these specifications as though they were one, and anything implied by the specifications shall be interpreted as also implied by the drawings and vice versa. Provide necessary items for a complete installation of all electrically operated equipment listed in the specifications or shown on the contract drawings.
 - The architectural, structural, mechanical, plumbing and equipment drawings and specifications are incorporated into, and become a part of this division. This contractor shall examine all such drawings and specifications and become thoroughly familiar with the provisions contained therein. The submission of his bid shall indicate such knowledge.
 - Electrical drawings are diagrammatic. They are intended to show the approximate locations of equipment and conduit. Dimensions given on the plans, in figures, shall take precedence over scaled dimensions and shall be verified in the field. The electrical contractor shall layout all equipment rooms to make sure the equipment, as purchased, fits in the room or space shown. Exact location of all equipment shall be verified in the field and routing of conduits shall suit field conditions.
 - Until the time of installation, the architect reserves the right to make minor changes in the location of conduit and equipment without additional cost to the contractor.
 - The electrical drawings and specifications are intended to supplement each other. Material and labor necessary to the project shall be furnished and installed even though not specifically mentioned in both. Labor and/or materials neither shown nor specified, but obviously necessary for the completion and proper functioning of the system, shall be furnished and installed by the electrical contractor.
 - Arrange all equipment substantially as shown on the drawings. Make deviations only where necessary to avoid interference. Check all equipment sizes against available space prior to shipment to avoid interference.
 - Examine the work of other trades insofar as their work comes in contact with or is worked by this work in no case attach to, or finish against any defective work or install work in a manner which will prevent proper installation of the work of other trades.
 - Electrical contractor shall verify with other trades all electrical characteristics of equipment requiring electrical connections, contractor shall verify voltage, phase and horsepower and shall notify engineer of any discrepancies prior to start of work. Electrical contractor shall provide disconnecting means and overload protection for all equipment, unless furnished integral with equipment package.
 - It is the intent of these drawings that this be a complete electrical job, any errors or omissions shall be brought to the attention of the engineer prior to bidding the job.
- B. Visit to the Site
- This contractor shall visit the site of the work and familiarize himself with all conditions affecting his work. The submission of his proposal shall indicate such knowledge. No additional payment shall be made on claims that arise from a lack of knowledge of the existing conditions

Section 16010 (cont.)

- C. Code and Permits
- Installation shall be in full accordance with all codes, rules and regulations of municipal, city, county, state and public utilities and all other authorities having jurisdiction over the premises.
 - Comply with any specification requirements that are in excess but not in conflict with code requirements.
 - The contractor shall secure and pay for all permits, plan reviews and certificates of inspection in connection with his work, required by the foregoing authorities. Before final payment of the contract is allowed, all certificates shall be delivered to the architect in duplicate.
 - Electrical material and equipment shall bear the UL label except where UL does not label such types of material and equipment.
- D. Shop Drawings Submittals
- The electrical contractor shall submit five (5) sets of shop drawings, the shop drawings of the following equipment using the indicated numbering system and titles, shall be submitted through the architect to the engineer and then resubmitted for final approval if necessary. Shop drawings shall be submitted for the following items:
D.a. Contactors, time switches and photocell
D.b. Lighting fixtures
D.c. Fire alarm system
 - All submitted shop drawings (manufacturers' equipment descriptive sheets or vendors' prepared drawings) shall have the general contractor's or subcontractor's "stamp of approval" indicating that the item submitted is as called for on the plans and specifications, is approved by the general contractor or subcontractor, the date of approval and initialed by the person approving the submittal and the name of the company submitting said equipment for approval.
 - Submit bound brochures complete with a table of contents. Loose or stapled together sheets are not acceptable. Any submittals not in brochure form or not as specified shall be returned at the contractor's expense for resubmittal.
 - All descriptive literature shall be submitted in a three (3) hole brochure with a cover identifying the following:
D.a. Name of the job
D.b. Location of the job, address, city and state.
D.c. Name and address of the company submitting the brochures.
D.d. Date of the submittal.
 - Every effort shall be made, in checking the shop drawings, to detect and correct all errors, omissions and inaccuracies. Failure to do this will not relieve the electrical contractor of the responsibility for the proper and complete installation in accordance with the contract documents.

- E. As-built Drawings
- Submit to the architect one set of reproducible (mylars) electrical drawings showing the as-built conditions.
- F. Standards and Substitutions
- Wherever the words "approved by", "approved equal", "as directed" or similar phrases are used in the following specifications, they shall be understood to refer to the owner as the approving agency. The name or make of any equipment or materials named in these specifications (whether or not the words "or approved equal" are used) shall be known as the "standard".
 - These specifications establish quality standard of materials and equipment to be provided. Specific items are identified by manufacturer, trade name or catalog designation. This contractor shall submit his base bid price based upon standard specified equipment described herein and as detailed on drawings and associated contract documents. These specifications are not to be considered proprietary. The contractor may submit information on materials and manufacturers (other than those listed) for review by the architect or engineer no later than ten (10) days before bids are submitted. Manufacturers of products accepted by the architect and engineer will be listed in an addendum to the specifications as an acceptable substitution equipment accepted as detailed below and shall be shown as a separate add or deduct price to be factored into the base bid price by the architect and owner if accepted.
 - Should the contractor propose to furnish materials and equipment other than those specified or approved by addendum, submit a written request for substitutions to the architect at the bid opening. The request shall be an alternate to the original bid; be accompanied with complete descriptive (manufacturer, brand name, catalog number, etc.) and technical data for all items. Failure by this contractor to submit the requisite documentation detailed above shall be understood by the architect and engineer to indicate that substitute equipment will not be considered by the contractor for consideration. Such substitutions will not be considered after the bid opening date and delay of project will not be permitted for further inspection and evaluation after this date.
 - Where such substitutions alter the design or space requirements indicated on the drawings, include all items of cost for the revised design and construction including cost of all allied trades involved.
 - Acceptance or rejection of the proposed substitutions shall be subject to approval of the architect and engineer. If requested, the contractor shall submit (at his cost) inspection samples of both the specified and proposed substitute items.
 - In all cases where substitutions are permitted, the contractor shall bear any extra cost of evaluating the quality of the material and equipment to be provided.

- G. Testing and Placing in Service
- Any material or equipment failing a test shall be repaired or replace at the contractor's expense.
 - Tests shall include the following:
G.a. Measure the load on each phase of the main service and each phase of every feeder under full load conditions.
G.b. Measure the no-load and full-load voltages (phase to phase, phase to neutral and phase to ground for each phase of each service, of each separately derived system, and at each panelboard or transformer).
G.c. Measure the ground resistance of the main service grounding electrode and the ground resistance of each separately derived system's grounding electrode.
G.d. Make insulation resistance tests on all dry type transformers and motors.

- H. Interferences
- Before the installation of any item begins, the electrical contractor shall carefully ascertain that it does not interfere with clearances for the erection of finish beams, columns, pilasters, walls or other structural or architectural members as shown on the architectural drawings. If any work is installed and the architectural design cannot be followed, this contractor shall, at his own expense, make changes in his work as directed by the architect to permit the completion of the architectural work in accordance with drawings and specifications.
 - It shall be the duty of this contractor to report any interferences between his work and that of any of the other contractors as soon as they are discovered. The architect shall determine which equipment will be relocated, regardless of which was installed first. His decision will be final.

- I. Quality Assurance
- All products shall be new and of the type and quality specified. Where materials, equipment, apparatus or other products are specified by manufacturer, brand name, type of catalog number, such designation shall establish the standards of the desired quality and style. It is the intent of these specifications to establish a standard of quality of materials and equipment installed.

Section 16050 – Basic Electrical Materials and Methods

- A. Nameplates
- General: furnish and mount on each panelboard, switchboard (including branch switches), large junction box, safety switch, starter, remote control, push button station, and all similar controls, a nameplate descriptive of the equipment or equipment controlled.
 - Provide black and white nameplates constructed from laminated phenolic with a white center core. Letters shall be engraved in the phenolic to form white letters 3/8" high. Fasten the nameplates with an adhesive type fastener.

Section 16050 (cont.)

- B. Mounting Accessories
- This contractor shall furnish and install all angle iron, channel iron, rods, supports, hangers, concrete or plywood called for to install, mount and support any electrical equipment or device required for on the plans.
 - Supporting material shall be complete with hangers, connectors, bolts, clamps and necessary accessories to make a complete installation. Supporting material shall be galvanized, painted or otherwise suitably finished. Products by Binkley, Steel City, or Raco will be acceptable.
 - All surface-mounted equipment on block walls shall be mounted on 3/4" plywood backboard. All floor-mounted equipment shall be installed on a 4" high concrete housekeeping pad.
- C. Execution
- The electrical work for construction proposed shall conform to all federal (OSHA), state, all specific safety requirements and the requirements of the current edition of the NEC.
 - Check the HVAC and plumbing specifications for electrical requirements and include the same in the contract cost.
 - Equipment connections, starters, disconnect switches, control transformers and pushbutton stations for the equipment furnished by the owner or under a separate contract shall be installed and connected under this division, as indicated on the contract drawings.
 - All cutting, patching, excavating, backfilling and concrete work related to this contract will be the responsibility of the electrical contractor. This contractor shall assume the responsibility of providing the sleeves, chases and openings necessary for the electrical installation and for their repair in an acceptable manner, as determined by the architect. All holes shall be core-drilled. Provide fire stop in all openings created through fire-rated walls, floors or ceilings.
 - This contractor shall be responsible for providing all required access panels necessary for his work, coordinate with architect prior to installation.
- D. Materials and Workmanship
- All work shall be installed in a practical and workmanlike manner, by mechanics skilled in the several trades necessary.
 - All materials shall be new and free from defects and shall be the best of their several kinds unless specified or indicated on the drawings to the contrary.
 - During each phase and at the completion of the construction, this contractor shall remove all debris and excess materials caused by his work. He shall leave the area of operation broom clean.
 - All electrical equipment shall bear the underwriters laboratories label or ETL label.
 - This contractor shall guarantee his workmanship and material (lamps excepted) for a period of one year from the date of building opening and leave his work in perfect order at the completion. Should defects develop within the guarantee period, the contractor shall, upon notice of the same, remedy the defects and have all damages to other work or furnishings caused by the repairs corrected at his expense to the condition before such damage.
- E. Scope of Work
- The electrical contractor shall provide all labor, material, storage, unpacking and placement; to include but not be limited to, the following items:
E.a. Emergency lighting.
E.b. Complete power and lighting distribution system including all panels, over-current protection devices and feeders.
E.c. Complete branch circuit wiring system.
E.d. Complete power wiring for all air conditioning equipment, plumbing system, heating equipment, ventilating and exhaust equipment.
E.e. Complete lighting fixture installation, including all lamps.
E.f. Complete telephone and communication conduit system including boxes, plates, jacks, etc., as specified, shown on the drawings and required by the local telephone company and/or owner.
E.g. Temporary electrical power and lighting as required for construction.
E.h. Testing of all cables and circuit wiring after installation.
E.i. Exit light system.
E.j. Wiring devices.
E.k. Lighting controls.
E.l. Grounding of the electrical system.
E.m. Outdoor lighting and controls.
E.n. Fire alarm system.
E.o. Coordination of the reworking of the Telephone/Data/Cable TV and Electric services with the respective utility companies.
- F. Temporary Service
- The electrical contractor shall furnish, install and remove as required all temporary power and temporary lighting in all areas and individual rooms when needed by the individual trades in the performance of their work. This contractor shall provide a minimum of twenty (20) footcandles of illumination for temporary lighting. Any additional lighting required by individual trades shall be provided by the individual trades including power for the lighting. The electrical work for construction purposes shall conform to all federal (OSHA), state, specific safety requirements, as well as the requirements of the national electric code and national electrical safety code. The electrical contractor shall obtain and pay for all required applications, permits and inspections pertaining to this work. This cost shall be included in the contractor's price.
 - New light fixtures shall not be used for temporary lighting.

Section 16060 – Grounding and Bonding

- A. Ground all equipment per N.E.C.
- B. Ground each outside lighting pole separately with one ground rod and a #6 ground wire.
- C. Ground all dry type transformers as per drawings and NEC #450-10.
- D. All conduits shall contain a code-sized ground wire size per N.E.C. in addition to the conductors shown on the plans. Where circuit conductors are increased in size for voltage drop, the ground wire size shall be increased proportionately.

Section 16120 – Wiring and Cable

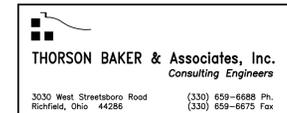
- A. Color code conductors (except control and instrumentation conductors) as follows:
- | | |
|----------------|-------|
| 208/120 System | Black |
| Phase A | Black |
| Phase B | Red |
| Phase C | Blue |
| Neutral | White |
| Ground | Green |
- #12 and #10 conductors shall have continuous insulation color, as listed above.
 - Color code conductors larger than above, which do not have continuous insulation color by application of at least two laps of colored tape on each conductor at all points of access including junction boxes. Color tape shall be the equal of 3M products Scotch #35.
 - Conductors shall be soft annealed copper insulated for 600 volts unless specifically indicated otherwise. Aluminum conductors are not allowed on this project.
- B. Insulation type shall be type THWN for wire sizes #8 AWG and larger and THHN or THWN for #10 AWG and smaller. THHN shall not be used in wet or damp locations.
- C. Flexible cord shall be heavy duty type so with an equipment ground conductor in addition to the current carrying conductors.
- D. Provide #12 conductors, unless otherwise indicated.
- Control conductors shall be #14 minimum for NEC class I and #16 for NEC class II.

Section 16120 (cont.)

- E. Conductors #8 AWG and larger shall be stranded.
- F. Conductors #10 AWG and smaller shall be solid.
- G. Install wiring in conduit.
- H. Connect #10 and smaller wires with constant pressure expandable spring type connectors, "Scotchlok" by 3M or B-Cap by Buchanan.
- I. Connect #8 and larger wires with compression connectors or splices as manufactured by Burndy or T&B.
- J. Insulate splicing connectors to at least 200% of the wire insulation. Use pre-stretched tubing connector insulators, 3M PST for #2 and larger conductors.
- K. Pull conductors using recognized methods and equipment leaving at least 6" wire at all junction boxes for connections.
- Clean out each conduit system before pulling wire.
- L. Form and tie all wiring in panelboards.
- M. There shall be no wirenut joints or splices made inside switchboards/panelboards.
- N. Branch circuit wire sizes (and conduits) shall be increased from those indicated on the plans to prevent excessive voltage drop. Branch circuits shall be installed with wires of sufficient size so that voltage drop between the panel and the loads does not exceed limit of 3%.
- O. Regardless of the temperature rating of the conductor insulation, all conductor ampacity rating for this project shall be determined from the 75°C conductor temperature ratings indicated in the NEC tables. Where equipment or devices are provided with terminals/lugs rated for 60°C, the ampacity rating of the 75°C conductor shall be limited to its associated 60°C rating as indicated in the NEC tables. The electrical contractor shall be responsible to increase the conductors and conduit size as required.
- P. Circuits may be multi-plexed in conduit provided wire is properly derated and conduit sized per code. Under no circumstances shall more than six (6) current carrying conductors be run in a single conduit.

Section 16130 – Raceways and Boxes

- A. Raceways
- All wire shall be run in accordance with code in corrosion resistant, rigid, threaded, metal conduit or electrical metallic tubing (E.M.T.) unless otherwise specifically stated herein.
A.a. Conduit in exterior walls, below floor slab, or underground shall be rigid, threaded, galvanized, heavy wall type.
A.b. Carlon PVC type 40 heavy wall conduit with ground wire may be used below floor slab or underground in lieu of rigid, threaded, galvanized conduit. PVC 40 conduit shall not be run in or above floor slab. PVC conduit shall terminate below floor slab with rigid, threaded metal conduit adapter. Conduit above slab shall be metal.
A.c. Conduit run exposed to the weather shall be heavy wall, metal weather shield type.
D. Conduit size shall be 3/4" minimum.
3. Conduit shall be securely fastened in place.
4. All conduit shall be concealed in walls, floor and ceilings wherever possible. Exposed conduit in finished areas will not be permitted. Exposed conduit will be permitted in the unfinished areas with the specific approval of the architect.
5. Use flexible conduit for the connection to recessed or semi-recessed lighting fixtures (6' length maximum). Use liquid tight metal conduit for all connections to motors and other equipment subject to vibration and in areas subject to moisture.
6. Use watertight joints with buried and concrete encased conduit. All buried conduits outside of buildings shall have a minimum of 24" of cover. Metal conduits buried in earth shall be painted (two coats) with heavy asphaltum paint.
7. Support runs of conduit as detailed in the appropriate table of the national electrical code (NEC).
8. Installed exposed runs of conduit and conduit above lay-in ceilings parallel or perpendicular to the walls, structural members of intersections of vertical planes and ceilings. Provide right angle turns using fittings or symmetrical bends. Support conduits within 1" of all changes in direction.
9. If a conduit is suspended, it shall be supported on trapeze hangers which use "all-thread" rods from the structural steel. The use of ceiling support wire or similar material will not be accepted.
10. Install empty conduit for future use as indicated on the drawings. Conduit shall be complete with jettine or pull rope, junction/outlet boxes, tile rings and appropriate cover plates.
11. Provide pitchpockets where conduits penetrate the roof.
12. Thread lubrication/sealant is required on outdoor and underground threaded metal joints.
13. Install fire seal fittings where conduits penetrate concrete floor slabs or masonry walls required to be fire rated.
14. Horizontal portion of conduit exposed on the roof and feeding equipment shall not be more than 5'-0" unless the written approval from architect or engineer is obtained.
- B. Pull and Junction Boxes
- Install pull and junction boxes where shown on the drawings, and where required for changes in direction, at junction points, and to facilitate wire pulling. Furnish box sizes in accordance with NEC unless larger boxes are indicated.
 - Provide steel boxes and removable covers of code gauge, hot rolled sheet steel, hot dipped galvanized inside and outside, for above ground work. Furnish weatherproof boxes when installed above ground outside.
 - Provide cast iron boxes, hot dipped galvanized inside and outside where shown on the drawings. Furnish removable covers with gaskets and stainless steel, brass or bronze screws.
 - Provide concrete boxes for underground work unless otherwise indicated on the drawings. Furnish steel frames and covers with the cover attached to the frame with hexagon head, brass or bronze cap screws, 3/8" in diameter. Provide a rubber gasket for sealing between the cover and the frame. Paint the cover with two coats of heavy asphaltum.
- C. Outlet Boxes
- Use sheet steel boxes, zinc coated or cadmium plated, for concealed interior work.
 - Use cast boxes, zinc-cadmium finish malleable iron, for exposed interior work, and for exposed or concealed work in wet, damp or exterior locations. Cast boxes shall be series FD by Crouse Hinds or Appleton.
 - Wall box sizes (minimum) shall be 4" square X 2-1/2" deep where wall construction permits. Where wall construction dictates, the depth may be reduced to 2-1/8" or 1-1/2" under special conditions.
 - Fixture outlets in ceilings (minimum) shall be 4" octagonal X 1-1/2" deep (4-11/16" octagonal X 2-1/2" deep where required to accommodate larger conduit or larger number of wires).
 - Ganged boxes shall be one piece (minimum), 2-1/8" deep.
 - Provide cast iron, concrete-lite floor boxes with adjustable covers set flush and level with the finished floor, with outlets as indicated on the drawings. Provide Hubbell #B-2400, 4200, or 4300 series boxes with leveling screws. Flush type covers and openings to serve outlets used. Furnish flush caps for closing off box when not in use.
 - Flush mount boxes in all finished walls, install the plaster rings in drywalled plastered walls and raised covers as required in walls with other finishes so that the cover plates fit tightly against boxes or rings, 3/16" maximum gaps are allowed for noncombustible walls.
 - Adjust location of outlets in masonry or tile construction to occur in the nearest joint to the height specified. Heights shall meet A.D.A. requirements.
 - Support all boxes to maintain proper alignment and rigidity.
 - Clean boxes of all foreign matter prior to the installation or wiring of devices.
 - Mounting heights on the drawings are to the centerline of the box unless otherwise noted.



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March 7, 2013

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Sheet Issue Date:
Designed:
Drafted:
Checked:
Revisions:

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ELECTRICAL
SPECIFICATIONS

E-401



March 7, 2013
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Revisions:
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Section 16140 – Wiring Devices

- A. Wiring device color shall be selected by architect, unless otherwise indicated.
- B. Provide totally enclosed, 20 ampere, 120/277 volt, quiet A/C general use snap switches.
- C. Switches shall be specification grade as manufactured by Hubbel, P&S, or Leviton.
- D. Provide NEMA configuration 5–20R Duplex 125 volt grounding type receptacles rated for 20 amperes unless otherwise indicated on the drawings. Provide tamper resistant rated devices in public areas.
- E. Receptacles shall be specification grade as manufactured by Hubbell, P&S or Leviton.
- F. Receptacles requiring amperages, voltages or configurations different from the duplex convenience receptacles above shall be as indicated on the drawings.
- G. Provide other receptacles of a quality, material and workmanship equal to that specified for duplex convenience receptacles.
- H. Provide cover or device plates for outlet boxes as follows unless otherwise noted:
 - 1. Finished areas: thermoplastic – color to match device.
 - 2. Unfinished areas: zinc coated sheet metal, aluminum, or cast metal as appropriate for the type of box.
 - 3. Exterior areas: copper free aluminum with gray, powder epoxy finish, gasket, weatherproof, Crouse-Hinds "WLRD" for duplex receptacles and WLRs for single receptacles or equal.
 - 4. Telephone, communication, and signal outlet plates, shall match those used for receptacles and switches. All outlet and/or junction boxes shall be complete with a cover plate by this contractor.
 - 5. Where devices are ganged, they shall be installed under a common coverplate.
- I. Locate the switches approximately 4"–0" above the finished floor elevation or nearest block course (within A.D.A. requirements), unless otherwise indicated. The long dimension of the switches shall be vertical.
- J. Locate receptacles approximately 1"–6" above the finished floor elevation or nearest block course (within A.D.A. requirements), unless noted otherwise. The long dimension of receptacles shall be vertical.

Section 16410 – Safety Switches

- A. Safety switches shall be the enclosed heavy-duty type (type HD) with quick-make, quick-break mechanism and external pad lockable operating handle.
- B. Safety switches shall be rated for 240 or 600 volts as applicable. They shall be horsepower rated when used in motor circuits.
- C. Safety switches shall be fusible or non-fusible 2, 3, or 4 pole as indicated on the drawings.
- D. Safety switches shall be single throw unless otherwise indicated on the drawings.
- E. Enclosures shall be NEMA 1 indoors and NEMA 3R outdoors unless otherwise indicated on the drawings.
- F. Manufacturer shall be Square D, Siemens, G.E., or Cutler-Hammer. All safety switches shall be by one manufacturer.
- G. Mount the safety switches securely between 3' X 6' levels above the floor unless otherwise indicated on the drawings.
- H. Switches on block walls shall be mounted on a 3/4" plywood backboard, where located indoors.

Section 16420 – Motor Starters

- A. Provide motor starters (magnetic or fused combination) and control equipment where shown. Starters shall be provided with 120 volt coils, 3 overloads, control transformer with fused 120 volt secondary control circuit, (2) N.O. and (2) N.C. auxiliary contacts, hand-off-auto selector switch and running pilot light, unless otherwise noted. Wire thru control devices furnished by other trades. Since motor driven equipment is furnished by other trades, the control indicated on the drawings shall be considered as for bidding purposes only. Wire to conform to the actual equipment supplied and installed by the other trades. All fuses shall be dual element type. Provide "blowfuse" indicator lamps in cover.
- B. Starters shall be Square D, G.E., Cutler-Hammer, or Siemens.
- C. The exact number of normally open and normally close auxiliary contacts in each starter shall be determined by the temperature control contractor.
- D. Coordinate all equipment indicated on the electrical drawings with mechanical equipment schedules and specifications and provide motor starters for all equipment indicated as being interlocked or started from a remote location.
- E. Starters supplied as an integral part of equipment shall be furnished under the division providing the equipment. Wiring and disconnect shall be by this contractor. All other starters and auxiliary control equipment shall be supplied and wired by this contractor unless otherwise noted.

Section 16442 – Distribution and Panelboards

- A. Panelboards
 - 1. Panelboards shall be enclosed dead front safety type with features and ratings as scheduled on the drawings.
 - 2. Panels known as "load centers" are unacceptable.
 - 3. Molded case circuit breakers shall be as scheduled on the drawings and specified in this division. Provide new breakers as required.
 - 4. All bus bar shall be rectangular solid copper.
 - 5. Space, where shown in panel schedules, designates space for future protective devices and shall include bus and support.
 - 6. Install cabinets so that center of the top breaker does not exceed 6"–6" above the finished floor.
 - 7. Entries on directory cards shall be typed, complete and accurate.
 - 8. All bolted connections shall be torqued in accordance with manufacturer's standards.
 - 9. Electrical contractor shall arrange circuits as near as possible to circuit numbers on the drawings. At completion of job, electrical contractor shall take current reading checks of respective phases. A minimum of circuit connections shall be rearranged to balance, as closely as possible, the load in the panel.
 - 10. All breakers shall be bolt-on type.
 - 11. Provide (3) spare 1" conduits into accessible ceiling space where panels are flush-mounted.
 - 12. Manufacturer shall be Square D, Siemens, G.E., or Cutler-Hammer.

Section 16491 – Fuses

- A. The contractor shall furnish a complete set of fuses for all switches, plus fusible equipment furnished by other trades. Unless indicated otherwise on plans, the fuses shall be of the following types:
 - 1. Fuses 601 to 6000 amps shall be UL class. Trade type shall be KRP-C as manufactured by Bussmann Company.
 - 2. Fuses 1/10 to 600 amps shall be UL class RK1. Trade type shall be low peak LPS-RK (600V) and LPN-RK (250V) as manufactured by Bussmann Company.
 - 3. All other fuses shall be dual-element current-limiting type with 200,000 amperes symmetrical interrupting capacity.
- B. Fuses shall be manufactured by Bussman, Gould-Shawmutt, or Reliance.
- C. Spare fuses amounting to a duplicate set of each size installed shall be turned over to the owner upon completion of the project. Provide and place in a spare fuse cabinet similar to Bussman # SFC.
- D. This contractor shall replace all fuses blown during construction.

Section 16750 – Telephone System

- A. This contractor shall provide and install all conduits with pull wires, outlet boxes, metal cabinets and pull boxes. Provide a complete conduit system with pull wire as indicated on drawings.
- B. Provide plates of same material and finish as specified for receptacles. Wall phone plates shall have mounting studs.
- C. Provide plywood terminal board as shown on drawings.
- D. A conduit run shall have not more than three (3) bends in a run between outlet boxes or between outlet box and a metal cabinet or pull box. When a run requires more than three (3) bends, a pull box of suitable size shall be placed in suitable location to meet the above conditions.