### Roadway and Pond Pay Quantities

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<th>Item</th>
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<th>Pay Notes</th>
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### Hardscapes and Landscape Pay Quantities

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### Storm Water Option 1

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### Electric and Lighting Quantities

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### Notes

- This document is preliminary in nature and is not a final, signed and sealed document.
- C.O.T. Pay Item List Rev. Date: 08/09/2017

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**City of Tulsa, Oklahoma**

**Engineering Services Department**

**City Engineering Services, Inc.**

**Planning, Design & Construction Division**

**P.O. Box 62030**

**Tulsa, Oklahoma 74103**

**Phone: (918) 549-4020**

**Website: www.cityoftulsa.org**

---
TO A SEPARATE PAY ITEM ARE INCLUDED IN THE PRICE BID.

AND ENGINEER.

INCLUDED.

OCCURS,

SALVAGED TOPSOIL TO BE USED FOR THE PARK.

PLANS.

PG 64-22 OK

FOOTING.

NOT SHALL BE INCLUDED IN THE PRICE BID FOR THIS ITEM. NO ADDITIONAL PAYMENT WILL BE MADE.

STD NO., 754 STD NO. 761 AND STD NO. 762.

OMNI-FLEX JOINT GASKET OR APPROVED EQUAL. MASTIC JOINT SEALANT SHALL NOT BE ALLOWED.

CURB ALLOWED. THIS PAY ITEM INCLUDES INLET FRAME, GRATE, HOOD AND CONCRETE.

ALL CITY.

G03

IN

NOTED

CONDITIONS

GRATE

N/A

THE

WILL

APRON

INLET

OF

5' (EXCLUDING PROJECT EXISTING CASTINGS AND 70-28 ON SIDE ON ONE CURB, OF 10/19 OR THE CASTINGS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR DRILLED SHAFTS.

BY

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USE.

THE USE OF FLY-ASH IN CONCRETE IS PROHIBITED.

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THE USE OF FLY-ASH IN CONCRETE IS PROHIBITED.
1. ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE 2009 OKLAHOMA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION AND THE CURRENT CODES OF THE TULSA ENGINEERING SERVICES DEPARTMENT STANDARDS; SPECIFICATIONS AND STANDARD DRAWINGS AND CITY OF TULSA SPECIAL PROVISIONS.

2. THE CONTRACTOR SHALL COMPLY WITH ALL FEDERAL, STATE AND LOCAL LAWS GOVERNING SAFETY, HEALTH AND SANITATION. THE CONTRACTOR SHALL PROVIDE ALL SAFEGUARDS, SAFETY DEVICES AND PROTECTIVE EQUIPMENT; AND TAKE ANY OTHER NECESSARY ACTION AS HIS OWN RESPONSIBILITY OR AS THE ENGINEER MAY DEEM NECESSARY TO PROTECT PROPERY IN CONNECTION WITH THE PERFORMANCE OF WORK COVERED BY THE CONTRACT.

3. PAY ITEMS SHALL BE AS SPECIFIED ON THE CITY OF TULSA OR THE GOD STANDARD DRAWINGS EXCEPT AS MODIFIED BY THE CONTRACT.

4. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK IN EACH AREA. THE CONTRACTOR IS FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT RESULT FROM HIS FAILURE TO LOCATE AND PREPARE A COPY OF THE ACTUAL LOCATIONS.

5. THE LOCATIONS OF THE UTILITIES ARE SHOWN ACCORDING TO ALL AVAILABLE INFORMATION. THE CONTRACTOR SHALL NOTIFY EACH UTILITY OWNER PRIOR TO COMMENCEMENT OF WORK TO VISIT BOTH HORIZONTAL AND VERTICAL LOCATIONS. THE FOLLOWING IS A LIST OF UTILITY OWNERS: AT&T; PUBLIC SERVICE COMPANY OF OKLAHOMA; OKLAHOMA NATURAL GAS; SGG; COX COMMUNICATIONS; MOVERE; THE CITY OF TULSA; THE CITY OF TULSA-WATER AND SEWER; CITY OF TULSA-TRAFFIC OPERATIONS. SEE TITLE SHEET FOR CONTACT INFORMATION.

6. THE CONTRACTOR SHALL GIVE THE NOTIFICATION CENTER OF OKLAHOMA ONE-CALL SYSTEM, INC. NOTICE OF ANY EXCAVATION NO LESS THAN TEN DAYS NOT LATER THAN THURSDAYS SUNDAYS AND LEGAL HOLIDAYS, PRIOR TO THE COMMENCEMENT OF WORK. PHONE 1-800-222-6345.

7. THE CONTRACTOR SHALL TAKE REASONABLE PRECAUTIONS TO PREVENT EXCESS MOISTURE FROM INCURRING INTO THE MADE MATERIALS. THE CONTRACTOR SHALL ENSURE THAT MADE MATERIALS ARE NOT ADVERSELY EFFECTED BY THE EXCESS MOISTURE. THE CONTRACTOR SHALL REPLACE THE ADOJNING PASSAGEWAY AND SUBBASE AT HIS SOLE EXPENSE.

8. THE CONTRACTOR SHALL PRESERVE THE INTEGRITY OF THE SANITARY SEWER SYSTEMS AND ALL OTHER UTILITY STRUCTURES WITHIN THE PROJECT EXTENTS.

9. THE CONTRACTOR SHALL WORK IN COOPERATION WITH THE CITY OF TULSA TO ESTABLISH, INSTALL, MAINTAIN, AND OPERATE COMPLETE, ADEQUATE, AND SAFE TRAFFIC CONTROLS DURING THE ENTIRE CONSTRUCTION PERIOD. ALL FLAMMABLE BARRELED MATERIALS SHALL BE APPLIED IN THE FIELD ENGINEERING REPRESENTATIVE.

10. CONSTRUCTION SHALL BE INSTALLED IN A MANOR APPROVED BY THE ENGINEER, IN ACCORDANCE WITH CHAPTER VS OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, CURRENT EDITION, AND APPLICABLE GOD STANDARD DRAWINGS. THE CONTRACTOR SHALL PRODUCE A PROPOSED TRAFFIC CONTROL PLAN FOR APPROVAL BY THE ENGINEER PRIOR TO BEGINNING WORK.

11. THE CONTRACTOR SHALL NOTIFY THE CITY OF TULSA FIELD ENGINEERING, 916-956-8844, A MINIMUM OF 48 HOURS PRIOR TO COMMENCING OR PRIOR TO REMOVING TRAFFIC SIGNS.


13. CONSTRUCTION SCAFFOLDS SHALL BE ERRECTED IN A MANEAR APPROVED BY THE ENGINEER. NO ADAPTIONAL PAYMENT WILL BE MADE FOR THE DISPOSAL OF THIS MATERIAL.

14. ALL EXCAVATED MATERIAL NOT REQUIRED IN THE PROJECT SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE LIMITS OF THE PROJECT AND DEPOSITED IN A MANEAR APPROVED BY THE ENGINEER. ALL ADDITIONAL PAYMENT WILL BE MADE FOR THE DISPOSAL OF THIS MATERIAL.

15. ALL EXCAVATED TRENCH MATERIALS, GUTTERS AND OTHER DEBRIS SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE LIMITS OF THE PROJECT AND DEPOSITED IN A MANEAR APPROVED BY THE ENGINEER. NO ADDITIONAL PAYMENT WILL BE MADE FOR THE DISPOSAL OF THIS MATERIAL.

16. ALL EXCAVATED MATERIAL NOT REQUIRED IN THE PROJECT SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE LIMITS OF THE PROJECT AND DEPOSITED IN A MANEAR APPROVED BY THE ENGINEER. ALL ADDITIONAL PAYMENT WILL BE MADE FOR THE DISPOSAL OF THIS MATERIAL.

17. ALL EXCAVATED MATERIAL NOT REQUIRED IN THE PROJECT SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE LIMITS OF THE PROJECT AND DEPOSITED IN A MANEAR APPROVED BY THE ENGINEER. ALL ADDITIONAL PAYMENT WILL BE MADE FOR THE DISPOSAL OF THIS MATERIAL.

18. ALL EXCAVATED MATERIAL NOT REQUIRED IN THE PROJECT SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE LIMITS OF THE PROJECT AND DEPOSITED IN A MANEAR APPROVED BY THE ENGINEER. ALL ADDITIONAL PAYMENT WILL BE MADE FOR THE DISPOSAL OF THIS MATERIAL.

19. ALL MATERIALS ARE TRANSPORTED IN THE PRODUCTION OF WORK, VEHICLES SHALL NOT BE LOADED BEYOND THE CAPACITY RECOMMENDED BY THE VEHICLE MANUFACTURER OR AS PRESCRIBED BY ANY FEDERAL, STATE OR LOCAL LAW OR REGULATION.

20. ANY DAMAGE TO THE ROADSIDE PAVEMENT, CURB, DRIVEWAYS OR SIDEWALK CAUSED BY THE CONTRACTORS OPERATION SHALL BE REPAIRED TO THE IFIDEEDERS SATISFACTION AND SHALL BE SATISFIED AT THE CONTRACTORS OWN EXPENSE. ALL DISRUPTED ITEMS SHALL BE REPAIRED TO MATCH EXISTING MATERIALS AND PATTERNING.

21. IF THE CONTRACTOR ENCOUNTERS VOID WHEN PATCHING STREETS, THE CONTRACTOR SHALL CALL FIELD ENGINEERING население 916-956-7414 FOR AN INSPECTION BEFORE PROCEEDING WITH WORK.

22. THE PROJECT SHALL BE CONSTRUCTED WITH CONTINUOUS FLOW OF MATERIAL SUPPLIED TO THE PROJECT SITE. THE CONTRACTOR SHALL NOTIFY THE LAYDOWN OFFICE NO LATER THAN 15 MINUTES IN FORECAST OF THE COMMENCEMENT OF WORK. THE LAYDOWN OFFICE MAY REQUIRE A TRANSFER OR CALL DURING BY THE ENGINEER.

23. NO FLY ASHS ALLOWED ON THIS PROJECT.

24. PHYSICAL TESTING FOR QUALITY ASSURANCE SHALL BE FURNISHED BY THE CITY.
### SURFACING SUMMARY

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<th>STATION</th>
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<th>UNCLASSIFIED EXCAVATION</th>
<th>AGGREGATE BASE</th>
<th>SUBGRADE FABRIC</th>
<th>SUPERIMPOSED TYPE 3A (PG 64-02 OK)</th>
<th>SUPERIMPOSED TYPE 54 (PG 64-02 OK)</th>
<th>TYPE 6A PITCH (ASPHALT)</th>
<th>COMBINED CEMENT &amp; CRUSHED LAYERS</th>
<th>STEMMED CONCRETE SIDEWALK</th>
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### SIGN SUMMARY

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### SUMMARY OF REMOVALS

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### SUMMARY OF DRIVES

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<th>DRIVE WIDTH, &quot;W&quot;</th>
<th>RETURN RADIUS, &quot;R&quot;</th>
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### SUMMARY OF PAVEMENT MARKINGS (PERMANENT)

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<th>TRAFFIC STRIPE (PLASTIC) 3/4&quot; WIDE (WHITE)</th>
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### ELM CREEK WEST POND

1. **ROADWAY SUMMARY SHEET**
2. **PROJECT NO. 148150**
3. **CITY OF TULSA, OKLAHOMA**
4. **ENGINEERING SERVICES DEPARTMENT**
5. **GUY ENGINEERING SERVICES, INC.**
6. **6910 E. 14TH ST, TULSA OK 74112 / PH: 918.437.0282 / WWW.GUYENGR.COM**

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THIS DOCUMENT IS PRELIMINARY IN NATURE AND IS NOT A FINAL, SIGNED AND SEALED DOCUMENT.
WATERLINE PAY QUANTITIES (09/24/2018)

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WATERLINE PAY QUANTITIES NOTES

1. The city of Tulsa field engineering department shall inspect all trenches, bedding, pipe installation, backfill, and compaction.
2. All construction and materials shall be in accordance with current standard specifications and standard details. City of Tulsa engineering services department.
3. Existing service connections are to be kept in service units, connections to new work made. All service line reconnections shall be made by the contractor. Service reconnections shall be installed as per city of Tulsa standard specifications and standard details.
4. Minimum cover over water lines shall be as noted on plans.
5. Contractor shall replace existing grass with seedings of the same type and variety as noted on plans.
6. Contractor shall provide at his own expense any additional work not shown or indicated in the plans or agreement.
7. Contractor shall provide at his own expense any additional work not shown in the plans or agreement.
8. Contractor shall provide at his own expense any additional work not shown in the plans or agreement.
9. Contractor shall provide at his own expense any additional work not shown in the plans or agreement.
10. Contractor shall provide at his own expense any additional work not shown in the plans or agreement.
11. Contractor shall provide at his own expense any additional work not shown in the plans or agreement.
12. Contractor shall provide at his own expense any additional work not shown in the plans or agreement.
13. Contractor shall provide at his own expense any additional work not shown in the plans or agreement.
14. Contractor shall provide at his own expense any additional work not shown in the plans or agreement.
15. Contractor shall provide at his own expense any additional work not shown in the plans or agreement.
WATERLINE SUMMARIES

COURSE EXCAVATIONS SHALL BE PAID FOR AS UNCLASSIFIED EXCAVATION. SUPERINTENDENT.

LOWEST FLOWLINE.
ESTABLISH, DEPTH OF ALL EXISTING UTILITIES IN THE PROJECT AREA PRIOR TO CONSTRUCTION.

10.
PAY ITEM INCLUDES MANHOLE RING, COVER, GROUT, SEALS, WATER-TIGHT LIDS.

WASTEWATER PAY ITEM NOTES

1. IF BLASTING IS REQUIRED, IT SHALL BE DONE IN ACCORDANCE WITH THE CITY OF TULSA BLASTING ORDINANCE. ALL EXCAVATIONS SHALL BE PAID FOR AS UNCLASSIFIED EXCAVATION.

1A.
PAY ITEM INCLUDES MANHOLE RINGS, COVER, GROUT, SEALS, WATER-TIGHT LIDS.

1B.
ADDITIONAL DEPTH IN A MANHOLE SHALL BE MEASURED FROM 6FT AS MEASURED FROM THE TOP OF RBM TO THE LOWEST FLOORING.

WASTEWATER CONSTRUCTION NOTES

1. ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE OCTOBER, 2013, STANDARD SPECIFICATIONS AND STANDARD DRAWINGS FOR WATER AND WASTEWATER, CITY OF TULSA ENGINEERING SERVICES DEPARTMENT.

2. UTILITIES SHOWN HEREIN ARE INTENDED FOR INFORMATION PURPOSES ONLY AND ARE NOT TO BE CONSTRUED AS THE EXTENT OR EXACT LOCATION AND DEPTH OF UTILITIES THAT MAY BE ENCOUNTERED DURING THE COURSE OF CONSTRUCTION. THE CONTRACTOR SHALL FIELD VERIFY THE PRESENCE, TYPE, SIZE, LOCATION AND DEPTH OF ALL EXISTING UTILITIES IN THE PROJECT AREA PRIOR TO CONSTRUCTION.

3. CONTRACTOR SHALL GIVE THE NOTIFICATION CENTER OF THE OKLAHOMA ONE-CALL SYSTEM, INC. NOTICE OF ANY EXCAVATION NO EARLIER THAN TEN (10) DAYS, NOR LATER THAN 48 HOURS, EXCLUDING SATURDAYS, SUNDAYS, AND LEGAL HOLIDAYS, PRIOR TO COMMENCEMENT OF WORK. PHONE NUMBER IS 1-888-522-5555.

4. GEOFACIAL REPORT AVAILABLE FOR REVIEW AT THE OFFICE OF GUY ENGINEERING, NEITHER THE CITY OF TULSA OR GUY ENGINEERING, GUARANTEES THE ACCURACY OF THE SOIL CONDITIONS.

5. ALL EXCAVATED MATERIALS NOT REQUIRED IN OTHER AREAS OF THE PROJECT, INCLUDING PAVEMENT DEBRIS MATERIAL, SHALL BECOME PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF BY THE CONTRACTOR IN A MANNER ACCEPTABLE TO THE ENGINEER WITHOUT COST TO THE CITY OF TULSA. THE CONTRACTOR SHALL BE RESPONSIBLE TO REMOVE EXCESS MATERIAL NOT DISPOSED OF WITHIN THE CITY LIMITS OF THE CITY OF TULSA.

6. ANY DAMAGE TO THE ROADWAY PAVEMENT CAUSED BY THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED TO THE SATISFACTION OF THE ENGINEER AND SHALL BE ACCOMPLISHED AT THE CONTRACTOR'S SOLE EXPENSE.

7. FOR OPEN ROAD CUT, CONTRACTOR IS TO MAINTAIN ONE-WAY TRAFFIC. CONTRACTOR SHALL PRESENT A TRAFFIC CONTROL PLAN TO THE CITY OF TULSA FIELD ENGINEERING DIVISION.

8. CONSTRUCTION TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). THE CONTRACTOR SHALL WORK IN COOPERATION WITH THE CITY OF TULSA TO ESTABLISH, INSTALL, MAINTAIN AND OPERATE COMPLETE, ADEQUATE AND SAFE TRAFFIC CONTROLS DURING THE ENTIRE CONSTRUCTION PERIOD. THE CONTRACTOR SHALL PLACE TRAFFIC CONTROL, FLASHERS, BARRELS AND DEVICES WITHIN THE LIMITS OF THE CONSTRUCTION AS REQUIRED. MAINTENANCE AND REPAIR OF ALL TRAFFIC CONTROL DEVICES SHALL BE DONE WEEKLY AND INVOICE TURNED IN TO INSPECTOR AND SIGNED BY THE SUPERINTENDENT.

9. LOCAL AND THROUGH TRAFFIC SHALL BE MAINTAINED THROUGH THE PROJECT AT ALL TIMES. ALL PUBLIC CLUBS AND WAYS SHALL BE ACCESSIBLE FOR TRAFFIC FROM ANY DETOUR DURING CONSTRUCTION OF THIS PROJECT.

10. CONTRACTOR SHALL VACUUM TEST ALL MANHOLES ACCORDING TO THE CITY OF TULSA, PUBLIC WORKS DEPARTMENT STANDARDS AND SPECIFICATIONS.

11. MANHOLES IN THE FLOOD PLAIN SHALL HAVE SEALED LIDS AND FRAMES.
**HARDSCAPE NOTES**

1. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE CAUSED TO THE UTILITIES (OVERHEAD AND BURIED) WHICH MAY OCCUR TO THESE UTILITIES DURING CONSTRUCTION OPERATIONS. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE CAUSED TO THE UTILITIES WHICH MAY OCCUR TO THESE UTILITIES DURING CONSTRUCTION OPERATIONS.

2. PROVIDE SCHEDULE 40 PVC IRRIGATION SLEEVES BELOW PAVEMENT AS SHOWN. IRRIGATION SLEEVES ARE TO HAVE 18" MIN. COVER. EXTEND SLEEVES 18" MIN. BEYOND EDGE OF PAVEMENT INTO LANDSCAPE AREAS, AND CAP UNTIL READY FOR IRRIGATION INSTALLATION. MARK LOCATIONS WITH FLAGS AND / OR 2" X 2" BLUE PAINT ON EDGE OF PAVING SLAB. PRIOR TO PAVEMENT INSTALLATION, ENSURE THAT ALL IRRIGATION SLEEVES, ELECTRICAL CONDUITS, UTILITY LINES, AND ALL OTHER UNDERGROUND WORK IS COMPLETE.

3. FOR HARDSCAPING LAYOUT, UTILIZE DIMENSIONS PROVIDED ON THE PLANS. DIMENSIONS ARE PERPENDICULAR / PARALLEL TO FACE OF WALLS AS SHOWN.

4. REFER TO CIVIL DRAWINGS FOR PROPOSED GRADING / ELEVATIONS FOR SIDEWALKS AND VEHICULAR PAVING. CLOSELY COORDINATE SIDEWALK ELEVATIONS WITH CURBS, DRIVES, WALLS, ETC.

5. REFER TO CIVIL PLANS FOR LOCATIONS OF SIGNS, ETC. THAT ARE LOCATED IN SIDEWALK AREAS. ENSURE THAT ALL FOOTINGS AND UNDERGROUND WORK ARE COMPLETED PRIOR TO NEW SIDEWALK CONSTRUCTION.

6. REFER TO ELECTRICAL DRAWINGS FOR LOCATIONS OF NEW PEDESTRIAN LIGHT POLES. ENSURE THAT FOOTINGS, CONDUITS AND ALL UNDERGROUND UTILITY WORK IS COMPLETED PRIOR TO NEW SIDEWALK CONSTRUCTION. ELECTRICAL CONDUITS SHOWN ARE APPROXIMATE ONLY. ADJUST AS NEEDED AND PROVIDE ALL OTHER SLEEVES AS REQUIRED FOR ELECTRIC / LIGHTING WORK. NOT ALL SLEEVES ARE SHOWN. REFER TO ELECTRICAL PLANS SPECIFICATIONS.
HARDSCAPE LEGEND

1. CONCRETE SIDEWALK
2. CONCRETE PAVERS WITH CONCRETE SUB-SLAB
3. CONCRETE PAVERS WITH CONCRETE SUB-SLAB (Typ.)
4. 42" HT. RAILING
5. ERECTED DECKING
6. BOARDMANA DECKING
7. OVERLOOK/ DECKING
8. RAISED PLANTER WALL
9. CONCRETE STAIRS
10. LANDSCAPE BED/ PLANTINGS
11. BRAKE AREA
12. SITE RETAINING WALL (SRW)

SITE FURNISHINGS LEGEND

1. 6' BENCH (DETAIL A/ SHT. L20)
2. BIKE RACK (DETAIL B/ SHT. L20)
3. LITTER RECEPTACLE (DETAIL C/ SHT. L20)

HARDSCAPE NOTES

1. CONTACT 811 PRIOR TO DIGGING. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE CAUSED TO THE UTILITIES (BOTH OVERHEAD AND BURIED) WHICH MAY OCCUR DUE TO HIS ACTION OR LACK THEREOF ON THE PROJECT SITE DURING CONSTRUCTION OPERATIONS. CONTRACTOR SHALL SEEK THE ASSISTANCE OF LOCAL UTILITIES AND THE CITY OF TULSA IN LOCATING THE UTILITIES PRIOR TO PERFORMING EXCAVATING/DRILLING OPERATIONS IN ANY AREA.
2. PROVIDE SCHEDULE 40 PVC IRRIGATION SLEEVES BELOW PAVEMENT AS SHOWN. IRRIGATION SLEEVES ARE TO HAVE 18" MIN. COVER. EXTEND SLEEVES 18" MIN. BEYOND EDGE OF PAVEMENT INTO LANDSCAPE AREAS, AND CAP UNTIL READY FOR IRRIGATION INSTALLATION. MARK LOCATIONS WITH FLAGS AND / OR 2" X 2" BLUE PAINT ON EDGE OF PAVING SLAB. PRIOR TO PAVEMENT INSTALLATION, ENSURE THAT ALL IRRIGATION SLEEVES, ELECTRICAL CONDUITS, UTILITY LINES, AND ALL OTHER UNDERGROUND WORK IS COMPLETE.
3. FOR HARDSCAPING LAYOUT, UTILIZE DIMENSIONS PROVIDED ON THE PLANS. DIMENSIONS ARE PERPENDICULAR / PARALLEL TO FACE OF WALLS AS SHOWN.
4. REFER TO CIVIL DRAWINGS FOR PROPOSED GRADING / ELEVATIONS FOR SIDEWALKS AND VEHICULAR PAVING. CLOSELY COORDINATE SIDEWALK ELEVATIONS WITH CURBS, DRIVES, WALLS, ETC.
5. REFER TO CIVIL PLANS FOR LOCATIONS OF SIGNS, ETC. THAT ARE LOCATED IN SIDEWALK AREAS. ENSURE THAT ALL FOOTINGS AND UNDERGROUND WORK ARE COMPLETED PRIOR TO NEW SIDEWALK CONSTRUCTION.
6. REFER TO ELECTRICAL DRAWINGS FOR LOCATIONS OF NEW PEDESTRIAN LIGHT POLES. ENSURE THAT FOOTINGS, CONDUITS AND ALL UNDERGROUND UTILITY WORK IS COMPLETED PRIOR TO NEW SIDEWALK CONSTRUCTION. ELECTRICAL CONDUITS SHOWN ARE APPROXIMATE ONLY - ADJUST AS NEEDED AND PROVIDE ALL OTHER SLEEVES AS REQUIRED FOR ELECTRICAL / LIGHTING WORK. NOT ALL SLEEVES ARE SHOWN - REFER TO ELECTRICAL PLANS / SPECIFICATIONS.

PRELIMINARY PLANS NOT FOR CONSTRUCTION
60%
HARDSCAPE LEGEND

- CONCRETE SIDEWALK
- CONCRETE PAVERS WITH CONCRETE SUB-SLAB
- CONCRETE EDGE RESTRAINT
- 42" HT. RAILING
- PEDESTRIAN LIGHT
- BOARDWALK/DECKING
- OVERLOOK/DECKING
- RAISED PLANTER WALL
- CONCRETE STAIRS
- LANDSCAPE BED/PLANTINGS
- LAWN AREA
- SITE RETAINING WALL (SRW)

SITE FURNISHINGS LEGEND
- 6' BENCH (DETAIL A/ SHT. L23)
- LITTER RECEPTACLE (DETAIL C/ SHT. L23)
- BIKE RACK (DETAIL B/ SHT. L23)
- SCH. 40 PVC IRRIGATION SLEEVE (TYP.)

HARDSCAPE NOTES

1. CONTACT 811 PRIOR TO DIGGING. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE CAUSED TO THE UTILITIES (BOTH OVERHEAD AND BURIED) WHICH MAY OCCUR DUE TO ACTION OR LACK THEREOF ON THE PROJECT SITE DURING CONSTRUCTION OPERATIONS. CONTRACTOR SHALL SEEK THE ASSISTANCE OF LOCAL UTILITIES AND THE CITY OF TULSA IN LOCATING THE UTILITIES PRIOR TO PERFORMING DIGGING/REMOVING OPERATIONS IN ANY AREA.

2. PROVIDE SCHEDULE 40 PVC IRRIGATION SLEEVES BELOW PAVEMENT AS SHOWN. IRRIGATION SLEEVES ARE TO HAVE 18" MIN. COVER. EXTEND SLEEVES 18" MIN. BEYOND EDGE OF PAVEMENT INTO LANDSCAPE AREAS, AND CAP UNTIL READY FOR IRRIGATION INSTALLATION. MARK LOCATIONS WITH FLAGS AND / OR 2" X 2" BLUE PAINT ON EDGE OF PAVING SLAB. PRIOR TO PAVEMENT INSTALLATION, ENSURE THAT ALL IRRIGATION SLEEVES, ELECTRICAL CONDUITS, UTILITY LINES, AND ALL OTHER UNDERGROUND WORK IS COMPLETE.

3. FOR HARDSCAPING LAYOUT, UTILIZE DIMENSIONS PROVIDED ON THE PLANS. DIMENSIONS ARE PERPENDICULAR / PARALLEL TO FACE OF WALLS AS SHOWN.

4. REFER TO CIVIL DRAWINGS FOR PROPOSED GRADING / ELEVATIONS FOR SIDEWALKS AND VEHICULAR PAVING. CLOSELY COORDINATE SIDEWALK ELEVATIONS WITH CURBS, DRIVES, WALLS, ETC.

5. REFER TO CIVIL PLANS FOR LOCATIONS OF SIGNS, ETC. THAT ARE LOCATED IN SIDEWALK AREAS. ENSURE THAT ALL FOOTINGS AND UNDERGROUND WORK ARE COMPLETED PRIOR TO NEW SIDEWALK CONSTRUCTION.

6. REFER TO ELECTRICAL DRAWINGS FOR LOCATIONS OF NEW PEDESTRIAN LIGHT POLES. ENSURE THAT FOOTINGS, CONDUITS AND ALL OTHER UNDERGROUND UTILITY WORK IS COMPLETED PRIOR TO NEW SIDEWALK CONSTRUCTION. ELECTRICAL CONDUITS SHOWN ARE APPROXIMATE ONLY - ADJUST AS NEEDED AND PROVIDE ALL OTHER SLEEVES AS REQUIRED FOR ELECTRICAL / LIGHTING WORK. NOT ALL SLEEVES ARE SHOWN - REFER TO ELECTRICAL PLANS / SPECIFICATIONS.
HARDSCAPE LEGEND

1. CONCRETE SIDEWALK
2. CONCRETE PAVERS WITH CONCRETE SUB-SLAB
3. CONCRETE EDGE RESTRAINT
4. 42" HT. RAILING
5. RESIDENTIAL LIGHT
6. HORIZONTAL SIGHTING
7. OVERHEAD DOCKING
8. RAISED PLANTER WALL
9. CONCRETE STAIRS
10. LANDSCAPE BED/PLANTINGS
11. GRASS AREA
12. DETAINING WALL (SRW)

HARDSCAPE NOTES

1. CONTACT 811 PRIOR TO DIGGING. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE CAUSED TO THE UTILITIES BY DIGGING WITHOUT CONSUMING PERMISSION OR BY THE ACTIONS OF CONTRACTOR OR HIS SUB-PARTIES ON THE PROJECT SITE DURING CONSTRUCTION OPERATIONS. CONTRACTOR SHALL SEEK THE ASSISTANCE OF LOCAL UTILITIES AND THE CITY OF TULSA IN LOCATING THE UTILITIES PRIOR TO PERFORMING DIGGING/CONSTRUCTION OPERATIONS IN ANY AREA.

2. PROVIDE SCHEDULE 40 PVC IRRIGATION SLEEVES BELOW PAVEMENT AS SHOWN. IRRIGATION SLEEVES ARE TO HAVE 18" MIN. COVER. EXTEND IRRIGATION SLEEVES 18" MIN. BEYOND EDGE OF PAVEMENT INTO LANDSCAPE AREAS, AND CAP WELDING FLATS AND PIPE TOPS ON EDGE OF PAVEMENT PRIOR TO PAVEMENT INSTALLATION. ENSURE THAT ALL IRRIGATION SLEEVES, ELECTRICAL CONDUITS, UTILITIES, AND ALL OTHER UNDERGROUND WORK IS COMPLETE PRIOR TO PAVEMENT INSTALLATION. ENSURE THAT ALL UTILITIES AND ELECTRICAL WORK IS COMPLETE PRIOR TO NEW SIDEWALK CONSTRUCTION.

3. REFER TO ELECTRICAL DRAWINGS FOR LOCATIONS OF NEW PEDESTRIAN LIGHT POLES. ENSURE THAT FOOTINGS, CONDUITS AND ALL UNDERGROUND UTILITY WORK IS COMPLETED PRIOR TO NEW SIDEWALK CONSTRUCTION.

SITE FURNISHINGS LEGEND

1. 6' BENCH (DETAIL A/ SHEET L12)
2. LITTER RECEPTACLE (DETAIL C/ SHEET L23)
3. BIKE RACK (DETAIL B/ SHEET L23)

SCH. 40 PVC IRRIGATION SLEEVE (TYP.)
SCH. 40 PVC ELECTRICAL SLEEVE (TYP.)
CONCRETE PAVERS WITH CONCRETE SUB-SLAB
CONCRETE STAIRS
LANDSCAPE BED/PLANTINGS
GRASS AREA
DETAINING WALL (SRW)
CONCRETE SIDEWALK
CONCRETE PAVERS WITH CONCRETE SUB-SLAB
HARDSCAPE LEGEND

- CONCRETE SIDEWALK
- CONCRETE PAVERS WITH CONCRETE SUB-SLAB
- CONCRETE EDGE RESTRAINT
- 42" HT. RAILING
- PEDESTRIAN LIGHT
- BOARDWALK/DECKING
- OVERLOOK/DECKING
- RAISED PLANTER WALL
- CONCRETE PLANTER
- LANDSCAPE BED/PLANTING
- LAWN AREA
- SITE RETAINING WALL
- SHARED RIGHT-OF-WAY

HARDSCAPE NOTES

1. CONTACT 811 PRIOR TO DIGGING. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE CAUSED TO THE UTILITIES (BOTH OVERHEAD AND BURIED) WHICH MAY OCCUR DUE TO HIS ACTION OR LACK THEREOF ON THE PROJECT SITE DURING CONSTRUCTION OPERATIONS. CONTRACTOR SHALL NOT BELIEVE THE ASSISTANCE OF LOCAL UTILITIES AND THE CITY OF TULSA AND MAY REQUIRE A PROFESSIONAL DIGGER TO LOCATE UTILITIES. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO UTILITIES IN ANY AREA.

2. PROVIDE SCHEDULE 40 PVC IRRIGATION SLEEVES BELOW PAVEMENT AS SHOWN. IRRIGATION SLEEVES ARE TO HAVE 18" MIN. COVER. EXTEND SLEEVES 18" MIN. BEYOND EDGE OF PAVEMENT INTO LANDSCAPE AREAS, AND CAP UNTIL READY FOR IRRIGATION INSTALLATION. MARK LOCATIONS WITH FLAGS AND OR 2" X 2" BLUE PAINT ON EDGE OF PAVING SLAB. PRIOR TO PAVEMENT INSTALLATION, ENSURE THAT ALL IRRIGATION SLEEVES, ELECTRICAL, CONSULT UTILITY LINES, AND ALL OTHER UNDERGROUND WORK IS COMPLETE.

3. FOR HARDSCAPING LAYOUT, UTILIZE DIMENSIONS PROVIDED ON THE PLANS. DIMENSIONS ARE PERPENDICULAR / PARALLEL TO FACE OF WALLS AS SHOWN.

4. REFER TO CIVIL DRAWINGS FOR PROPOSED GRADING / ELEVATIONS FOR SIDEWALKS AND VEHICULAR PAVING. CLOSELY COORDINATE SIDEWALK ELEVATIONS WITH CURBS, DRIVES, WALLS, ETC.

5. REFER TO CIVIL PLANS FOR LOCATIONS OF SIGNS, ETC. THAT ARE LOCATED IN SIDEWALK AREAS. ENSURE THAT ALL FOOTINGS AND UNDERGROUND WORK ARE COMPLETED PRIOR TO NEW SIDEWALK CONSTRUCTION.

6. REFER TO ELECTRICAL DRAWINGS FOR LOCATIONS OF NEW PEDESTRIAN LIGHT POLES. ENSURE THAT FOOTINGS AND ALL UNDERGROUND / UTILITY WORK IS COMPLETED PRIOR TO NEW SIDEWALK CONSTRUCTION. ELECTRICAL CONDUITS SHOWN ARE APPROXIMATE ONLY. ADJUST AS NEEDED AND PROVIDE ALL OTHER SLEEVES AS REQUIRED FOR ELECTRICAL LIGHTING WIRING. NOT ALL SLEEVES ARE SHOWN. REFER TO ELECTRICAL PLANS / SPECIFICATIONS.

HARDSCAPE NOTES

- 6' BENCH (DETAL A/ SHT. L23)
- LITTER RECEPTACLE (DETAL C/ SHT. L23)
- BIKE RACK (DETAL B/ SHT. L23)
- SCH. 40 PVC IRRIGATION SLEEVE (TYP.)
- 2" SCH. 40 PVC ELECTRICAL SLEEVE (TYP.)
- PROPOSED TREE (TYP.) (RE: TO LANDSCAPE PLANS)
- 6" WIDE CONCRETE EDGE RESTRAINT (DETAL C/ L20)
- CONCRETE PAVERS WITH CONCRETE SUB-SLAB (TYP.) (DETAL C/ L20)
- SCH. 40 PVC IRRIGATION SLEEVE (TYP.)
- 42" HT. RAILING (DETAL A/ L22)
- CONCRETE SIDEWALK (DETAL A&B/ L20)
- PROPOSED TREE (TYP.) (DETAL E/ L22)
- BIKE RACKS (DETAL B/ L20)

SITE FURNISHINGS LEGEND

- 6' BENCH (DETAIL A/ SHT. L23)
- BIKE RACK (DETAIL B/ SHT. L22)
- LITTER RECEPTACLE (DETAIL C/ SHT. L23)

HARDSCAPE LAYOUT PLAN - E

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PROJECT NO. T48150

ALABACK DESIGN ASSOCIATES
3202 E. 21ST ST, TULSA OK 74114 | PH: 918.742.1463

DATE: 4/26/19

FILE: DRAWING: BC

ELM CREEK WEST POND

POND

FUTURE REDEVELOPMENT AREA

MATCH LINE - SHT L14

CONCRETE PAVERS WITH CONCRETE SUB-SLAB (DETAL C/ L20)

ALABACK DESIGN ASSOCIATES
3202 E. 21ST ST, TULSA OK 74114 | PH: 918.742.1463

DATE: 4/26/19

FILE: DRAWING: BC

ELM CREEK WEST POND

POND

FUTURE REDEVELOPMENT AREA

MATCH LINE - SHT L14

CONCRETE PAVERS WITH CONCRETE SUB-SLAB (DETAL C/ L20)
1. CONCRETE UNIT PAVERS ARE TO BE INSTALLED PER SPECIFICATION - CONCRETE UNIT PAVING.
2. ALL PAVERS SHALL ABUT A CONCRETE EDGE RESTRAINT, A PAVEMENT SLAB, OR WALL.
3. ALL PAVERS ARE TO BE 2 3/8” THICK (60 MM) BY PAVESTONE (OR APPROVED EQUAL).
4. PAVER STYLE / PATTERN IS TO BE DETERMINED.
5. PROVIDE PAVER SAMPLES FOR APPROVAL.
6. JOINT SAND IS TO BE POLYMERIC JOINT SAND.

**CONCRETE PAVER NOTES**

- PROVIDE 6" WIDE CONCRETE EDGE RESTRAINT OR ALL EDGES OF PAVERS WHERE NOT ABUTTING CURB, BLDG. OR CONCRETE SLAB.
- 3/4" SQUARE HOLE AT ALL LOW POINTS WITH 1/2" FIBERGLASS FILTER MATERIAL.
- PROVIDE 6" THICK CONCRETE PAVERS / BEDDING SAND PER DETAIL C.
- 2 3/8" THICK CONCRETE PAVERS WITH JOINTS OF 1/4" EACH WAY.

**NOTE**

- PROVIDE CONTROL JOINTS AT 8' O.C. (MAX) IN EDGE RESTRAINT.
- PROVIDE CONTROL JOINTS AT 10' O.C. (MAX) IN EDGE RESTRAINT.
- PROVIDE 6" WIDE CONCRETE EDGE RESTRAINT OR ALL EDGES OF PAVERS WHERE NOT ABUTTING CURB, BLDG. OR CONCRETE SLAB.
- PROVIDE EXPANSION JOINTS ADJACENT TO ALL STREET CURBS, WALLS, AND STAIRS.

**PROJECT NO. 148150**

**ELM CREEK WEST POND**

**CITY OF TULSA, OKLAHOMA**

**ENGINEERING SERVICES DEPARTMENT**

**ALABACK DESIGN ASSOCIATES**

**3202 E. 21ST ST, TULSA OK 74114 | PH: 918.742.1463**

**DATE:**

**PAGE NO.:**

**SHEET NO.:**

**60% PRELIMINARY PLANS SUIT FOR CONSTRUCTION**

---

**SCALE: 1"=1'-0"**

**EXPANSION JOINT 32' O.C. (YP.)**

**CONTROL JOINT 10' O.C. (TYP.)**

**EXPANSION JOINT 30' O.C. (TYP.)**

**CONTROL JOINT 10' O.C. (TYP.)**

**SACRED CONTROL JOINTS PER PLANS - MIN. 1" DEPTH X 3/16" WIDE**

**NOTE:**

- PROVIDE EXPANSION JOINTS ADJACENT TO ALL STREET CURBS, WALLS, AND STAIRS.
- PROVIDE 6" WIDE CONCRETE EDGE RESTRAINT OR ALL EDGES OF PAVERS WHERE NOT ABUTTING CURB, BLDG. OR CONCRETE SLAB.
- PROVIDE CONTROL JOINTS AT 10'-0" O.C. (MAX) IN EDGE RESTRAINT.
- PROVIDE CONTROL JOINTS AT 8'-0" O.C. (MAX) IN EDGE RESTRAINT.
- PROVIDE 6" WIDE CONCRETE EDGE RESTRAINT OR ALL EDGES OF PAVERS WHERE NOT ABUTTING CURB, BLDG. OR CONCRETE SLAB.
- PROVIDE CONTROL JOINTS AT 8' O.C. (MAX) IN EDGE RESTRAINT.
- PROVIDE CONTROL JOINTS AT 10' O.C. (MAX) IN EDGE RESTRAINT.
- PROVIDE 6" WIDE CONCRETE EDGE RESTRAINT OR ALL EDGES OF PAVERS WHERE NOT ABUTTING CURB, BLDG. OR CONCRETE SLAB.
- PROVIDE CONTROL JOINTS AT 8' O.C. (MAX) IN EDGE RESTRAINT.
- PROVIDE CONTROL JOINTS AT 10' O.C. (MAX) IN EDGE RESTRAINT.
3'-6" HT. RAILING NOTES

1. FENCING TO BE: AMERISTAR (OR APPROVED EQUIVALENT) MONTAGE II STEEL PANEL, GALV. STEEL WITH POWDER COATED FINISH, COLOR BLACK. ALL RAILINGS SHALL BE MANUFACTURED BY AMERISTAR (OR APPROVED EQUIVALENT)

2. TYPICAL POST SPACING SHALL BE 72 7/16" PLUS OR MINUS 1/2" ON CENTER (COORDINATE WITH MANUFACTURER'S STANDARD PANEL LENGTHS). FOR ALL FIELD CUTS, CAREFULLY PRIME AND PAINT ALL EXPOSED METAL RAILINGS TO MATCH STANDARD RAILING DETAILING AND MATERIALS. RAILING IS TO ACCOMMODATE A 34° DEGREE (MAX.) SLOPE FOR USE ON TOP OF SLOPED WALLS.

3. 1/2" X 10" LONG STEEL DOWEL, 24" O.C.

4. " EXPANSION JOINT WITH POLYURETHANE SEALANT

5. LIMESTONE CAP (4" MINIMUM THICKNESS)

6. 2"X6" TREX DECKING

7. REFER TO STRUCTURAL DRAWINGS (TYP.)

8. LIMESTONE STONE VENEER WITH MASONRY ANCHORS

9. BASE PLATE: 7"X7"X 3/8" STEEL PLATE WITH (4) GUSSETS AND (9) 16" DIA. HOLES

10. 2 3/8" THICK CONCRETE PAVERS (PER DET. B/L20)

11. 4" THICK CONCRETE SUB-SLAB WITH #3'S, 18" O.C. EACH WAY

12. CAST IN PLACE WALL (PER STRUCTURAL DETAILS) (APPROXIMATE WIDTH)

13. 10" EXPANSION JOINT WITH POLYURETHANE SEALANT 1/2" O.C.

14. CROSS-SLOPE TOWARD POND FOR DRAINAGE (REFER TO GRADING PLAN)

15. 1/2" DIA. X 10" STEEL DOWEL, 24" O.C.

16. LIMESTONE VENEER WITH MASONRY ANCHORS

17. CAST IN PLACE WALL (PER STRUCTURAL DETAILS) (APPROXIMATE WIDTH)

18. REFER TO STRUCTURAL DRAWINGS (TYP.)
**Bench Notes**

1. All steel members coated with zinc rich epoxy then finished with polyester powder coating.
2. Acceptable bench manufacturers:
   - Premium: Model 119 - Fair Weather: Plaza Series Model PL-5
   - Victor Stanley: CBF-12

3. Provide center armrest option on all benches.
4. In concrete sidewalk, install 2 1/2" stainless steel all-thread spaced 8" on center into concrete, 6" setback.
5. In paver sidewalk, install 2 stainless steel all-thread spaced 6" on center into paver concrete, 6" setback.

**Concrete Footing Notes**

1. Cast 8" thick concrete footing under paver walkways.
2. 12" x 2 1/2" long #3 rebar through concrete footing.
3. 6" compacted subgrade
4. Continue #3 rebar, 18" on center through concrete footing.

**Litter Receptacle Details**

- Steel round 2 1/2" thick concrete pavers, 4" concrete slab.
- 12" long 1 1/2" steel tubing for anchoring.
- 2 1/2" x 2 1/2" square stainless steel flat head cap screw with washer and thin nylon locknut (typ.).
- 3500 psi concrete footing.
- 12" long 1 1/2" steel tubing for anchoring.
- Recess top of footing 2 3/4" as shown in locations where sidewalks are shown as concrete. Include tip to rest on reinforced concrete 4" pavers above footing.

**Bike Rack Notes**

1. All steel members coated with zinc rich epoxy then finished with polyester powder coating (black).
2. Acceptable manufacturers:
   - Sitescapes, Inc.
   - Dumar
   - Madrax
   - The Wagner Companies

3. Provide center armrest option on all benches.
4. In concrete sidewalk, install 2 stainless steel all-thread spaced 6" on center into concrete, 6" setback.
5. In paver sidewalk, install 1 3/16" stainless steel all-thread, epoxied into concrete, a minimum of 6" into concrete footing. After placement of stainless steel washer and nut, cut all-threads flush with top of nut. Tack weld nut in place.

**Bench Detail - Plan View**

- 12" x 2 1/2" stainless steel flat head cap screw with washer and thin nylon locknut (typ.).
- 9/16" diameter holes.
- 1/2" x 2 1/2" stainless steel flat head cap screw with washer and thin nylon locknut (typ.).

**Bike Rack Detail**

- 2 1/2" thick concrete pavers, 4" concrete slab.
- 12" long 1 1/2" steel tubing through concrete footing.
- Stainless steel all-thread to be embedded or epoxied a minimum of 6" into concrete footing. After placement of stainless steel washer and nut, cut all-threads flush with top of nut. Tack weld nut in place.

**Litter Receptacle Detail**

- 2 1/2" thick concrete pavers, 4" concrete slab.
- 12" long 1 1/2" steel tubing through concrete footing.
- 6" compacted subgrade.

**Bench Detail**

- 2" thick square stainless steel flat head cap screw with washer and thin nylon locknut (typ.).
- 9/16" diameter holes.
- 1/2" x 2 1/2" stainless steel flat head cap screw with washer and thin nylon locknut (typ.).

**Bike Rack Detail**

- 2 1/2" thick concrete pavers, 4" concrete slab.
- 12" long 1 1/2" steel tubing through concrete footing.
- Stainless steel all-thread to be embedded or epoxied a minimum of 6" into concrete footing. After placement of stainless steel washer and nut, cut all-threads flush with top of nut. Tack weld nut in place.

**Litter Receptacle Detail**

- 2 1/2" thick square stainless steel flat head cap screw with washer and thin nylon locknut (typ.).
- 9/16" diameter holes.
- 1/2" x 2 1/2" stainless steel flat head cap screw with washer and thin nylon locknut (typ.).

**Bench Detail - Plan View**

- 12" x 2 1/2" stainless steel flat head cap screw with washer and thin nylon locknut (typ.).
- 9/16" diameter holes.
- 1/2" x 2 1/2" stainless steel flat head cap screw with washer and thin nylon locknut (typ.).
AERATING FOUNTAIN DETAILS

POND AERATOR / EQUIPMENT SCHEDULE

<table>
<thead>
<tr>
<th>MANUFACTURER / MODEL</th>
<th>QTY</th>
<th>ITEM</th>
</tr>
</thead>
<tbody>
<tr>
<td>OTTERbine Barebo, Inc.; 'Gemini' (3 HP) Aerating Fountain</td>
<td>6</td>
<td>'Gemini' AERATING FOUNTAIN (3 HP)</td>
</tr>
</tbody>
</table>

NOT FOR CONSTRUCTION

PROVIDE OTTERbine 4-LIGHT LED LIGHT KIT (5700K) WITH MOUNTING BRACKET. CONTACT: Davis Supply Co., 5903 S. 118TH E. AVE., TULSA OK, 74146; PHONE: (918)940-3910; EMAIL: BILLY.STEGALL@DAVISSUPPLYCO.COM.

PROVIDE AERATORS FOR ELECTRICAL POWER PER ELECTRICAL DRAWINGS (208V/3 PHASE). REFER TO SPECIFICATIONS. INCLUDE REQUIRED CABLE LENGTHS AND POWER CENTER. ANCHOR FOUNTAIN TO BOTTOM FLOOR, DIRECTIONS USING THREE 5 GAL. BUCKETS FILLED WITH CONCRETE AND FLEXIBLE TETHERS.

EXISTING BUILDINGS TO REMAIN

FUTURE PRIVATE REDEVELOPMENT

SCALE: 1" = 60' - 0"
**PLANT SCHEDULE**

<table>
<thead>
<tr>
<th>TREES (CONT)</th>
<th>QTY</th>
<th>CITY</th>
<th>BOTANICAL NAME</th>
<th>COMMON NAME</th>
<th>CONT</th>
<th>CAL</th>
<th>X 6&quot; HT.</th>
<th>X 4&quot; SPD</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>C 16</td>
<td>Garage black 'Phoenix Sekey'</td>
<td>Acer truncatum 'Main Street'</td>
<td>Shantung Maple</td>
<td>B&amp;B</td>
<td>3&quot;</td>
<td>CAL</td>
<td>CENTRAL LEADER, FULL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ECTULIP 18</td>
<td>Emerald City Tulip Tree</td>
<td>Carpinus caroliniana</td>
<td>B&amp;B</td>
<td>3&quot;</td>
<td>CAL</td>
<td>12'-14<code> HT.; 4</code>-5` SPD. CENTRAL LEADER, FULL</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N 17</td>
<td>Scarsdale Oak</td>
<td>Sequoia spp.</td>
<td>B&amp;B</td>
<td>3&quot;</td>
<td>CAL</td>
<td>12'-14<code> HT.; 4</code>-5` SPD. CENTRAL LEADER, FULL</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>N 22</td>
<td>Nottuln Nuttallii</td>
<td>Quercus bicolor</td>
<td>B&amp;B</td>
<td>3&quot;</td>
<td>CAL</td>
<td>12'-14<code> HT.; 4</code>-5` SPD. CENTRAL LEADER, FULL</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>37</td>
<td>Ginkgo biloba 'Princeton Sentry'</td>
<td>Princeton Sentry Ginkgo</td>
<td>B&amp;B</td>
<td>3&quot;</td>
<td>CAL</td>
<td>12'-14<code> HT.; 3</code>-4` SPD. CENTRAL LEADER, FULL</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>L 18</td>
<td>Liriodendron tulipifera 'Emerald City'</td>
<td>Emerald City Tulip Tree</td>
<td>B&amp;B</td>
<td>3&quot;</td>
<td>CAL</td>
<td>12'-14<code> HT.; 4</code>-5` SPD. CENTRAL LEADER, FULL</td>
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<td>20</td>
<td>Ulmus parvifolia 'Allee'</td>
<td>Lacebark Elm</td>
<td>B&amp;B</td>
<td>3&quot;</td>
<td>CAL</td>
<td>12'-14<code> HT.; 4</code>-5` SPD. CENTRAL LEADER, FULL</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>37</td>
<td>Taxodium distichum 'Autumn Gold'</td>
<td>Autumn Gold Bald Cypress</td>
<td>B&amp;B</td>
<td>3&quot;</td>
<td>CAL</td>
<td>12'-14<code> HT.; 4</code>-5` SPD. CENTRAL LEADER, FULL</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Taxodium distichum 'Shawnee Brave'</td>
<td>Shawnee Brave Bald Cypress</td>
<td>B&amp;B</td>
<td>3&quot;</td>
<td>CAL</td>
<td>12'-14<code> HT.; 3</code>-4` SPD. CENTRAL LEADER, FULL</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>Taxodium distichum 'Emerald City'</td>
<td>Emerald City Tulip Tree</td>
<td>B&amp;B</td>
<td>3&quot;</td>
<td>CAL</td>
<td>12'-14<code> HT.; 4</code>-5` SPD. CENTRAL LEADER, FULL</td>
<td></td>
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</tr>
</tbody>
</table>

**SHRUBS, GROUND COVER, ORNAMENTAL GRASSES, & PERENNIALS**

Final landscape plans will include a detailed layout of all areas that are identified on blueprint plans for landscape plantings. Final plans will include specific plant varieties, sizes and quantities. The following list describes potential plant varieties that may be used for specific areas.

**Plaza Level Plantings:** Ground cover, evergreen winter creeper (Euonymus fortunei 'Coloratus').

**Plaza Level Planting Beds:**

- Evergreen winter creeper (Euonymus fortunei 'Coloratus').

**Landscaping Notes**

Call 811 for information on the location of underground utilities prior to digging. Contractor shall be responsible for any damage caused to utilities, structures, walls, fencing, and any other trees located within and outside the work area. Any damage by the contractor shall be repaired to original condition at his own expense.

Shrub and all other plantings, tree beds, and raised beds shall be graded and compacted prior to planting. Grading is to be around the tree and compacted to remove the top 2'-3' of the soil. Stability will be maintained by using a mixture of topsoil and sterilized cow manure. Roots shall be transplanted 1-Step at a rate of 4 Ounces per Caliper for trees, 1-Step at a rate of 5 Pounds per 100 Square Feet for ground cover beds.

Irrigate as necessary. Incorporate amendments into the top 3" of soil backfill. Stake and guy trees per details on plans.

**Tree Well and Planting Beds Soil Preparation**

**Tree Planting:**

3. Use landscape fabric for the correction of inadequate native soil conditions. Contractor shall be responsible for any damage caused to structures or utilities due to the installation of landscape fabric. Contractor shall provide a 3" layer of topsoil over landscape fabric.

**Carpet Grasses:**

3. Use landscape fabric for the correction of inadequate native soil conditions. Contractor shall be responsible for any damage caused to structures or utilities due to the installation of landscape fabric. Contractor shall provide a 3" layer of topsoil over landscape fabric.

**Perennial Grasses:**

3. Use landscape fabric for the correction of inadequate native soil conditions. Contractor shall be responsible for any damage caused to structures or utilities due to the installation of landscape fabric. Contractor shall provide a 3" layer of topsoil over landscape fabric.

**Mulch:**

3. Mulch shall be applied to all tree wells, planting beds, and raised planter beds. Grass areas shall be prepared with 'Patriot' bermuda grass sod. Refer to drawings for limits of sodding and refer to sodding specifications. Contractor shall be responsible for providing fresh grass (1") for sodding. Landscape contractor (LC) shall provide the sod grass prior to sodding. Any grading of lawn areas shall provide a smooth transition to existing grade and be free of depressions or crown irregularities. Setting of sod shall be reviewed by landscape contractor.

**Trees Two (2) Inches Above Finished Grade:**

3. Trees shall be planted two (2) inches above finished grade. Cut twine from around the trunk and completely remove. For typical plaza level planting beds, soil preparation:

**Tree Well and Planter:**

- Excavate existing soil to the depth of the root ball and 24" beyond the edge of rootball. Backfill using a mixture of topsoil with 4 cubic feet of Back to Nature and 15 lbs of sterilized cow manure per tree. Apply roots transplant 1-Step at a rate of four (4) ounces per caliper per tree.

**Incorporate Amendments:**

- Incorporate amendments into the top 3" of soil backfill. Stake and guy trees per details on plans.
**Tree Detail - Lawn Areas**

- **Scale:** Not to scale
- **Tree Strap:** 3/4" tree strap with grommets

**Tree Detail - (For Trees on Slopes ≥ 4:1)**

- **Scale:** Not to scale
- **Tree Strap:** 3/4" tree strap with grommets
- **Post Placement:** Drive to a minimum depth of 36" on downhill side and 48" on uphill side of tree
- **Mulch:** 2" mulch

**Raised Planter Detail**

- **Scale:** 1"=1'-0"
- **Top 12" of Planting Soil to be Amended:**
- **Prepared Soil and Fertilizer:** Refer to Structural Drawings - Typical
- **Crown Center of Planter:** 8" above top of concrete edging

**Plaza Level Planter Detail - Lawn**

- **Scale:** 1"=1'-0"
- **Top 12" of Planting Soil to be Amended:**
- **Prepared Soil and Fertilizer:** Refer to Structural Drawings - Typical

**Plaza Level Planter Detail - Planting Beds**

- **Scale:** 1"=1'-0"
- **Top 12" of Planting Soil to be Amended:**
- **Prepared Soil and Fertilizer:** Refer to Structural Drawings - Typical

**Mid-Level Terrace Planting Detail**

- **Scale:** 1"=1'-0"
- **Top 12" of Planting Soil to be Amended:**
- **Prepared Soil and Fertilizer:** Refer to Structural Drawings - Typical

**General Notes:**

- Refer to Structural Drawings (Typ.)
- Refer to Structural Drawings - TYP.
- Refer to Structural Drawings (TYP.)
- Refer to Structural Drawings - Typical

**Recommended:**

- City Engineering
- Design Manager

**Lead Engr.:**

- Field Mgr.
- Proj. Mgr.

**City of Tulsa, Oklahoma**

**Engineering Services Department**

**Project No. 148150**

**Elm Creek West Pond**

**Alaback Design Associates**

**3202 E. 21st St, Tulsa OK 74114 | Ph: 918.742.1463**

**Preliminary Plans Not for Construction**

**60%**

**Preliminary Plans Not for Construction**

**Sheet No.:**

- Sheet No. 11 of 12

**File:**

- Drawing: Atlas Page No: 01 & 08

**Note:** Provide three stakes per tree at equal spacing. One stake to be directly downslope from tree, two stakes to be above tree and parallel with slope.
**LANDSCAPE NOTES**

1. REFER TO SHEET L31 FOR PLANT MATERIAL SCHEDULE AND LANDSCAPE NOTES.
2. REFER TO SHEET L32 FOR TYPICAL LANDSCAPE PLANTING DETAILS.
3. REFER TO LANDSCAPE PLANS FOR LAYOUT OF SIDEWALKS AND PEDESTRIAN PAVEMENT (SHEETS L11 - L18).
4. REFER TO SHEETS L38 - L43 FOR SITE IRRIGATION SYSTEM PLANS.
5. REFER TO SHEETS L38 - L43 FOR SIDEWALKS AND PEDESTRIAN PAVEMENT (SHEETS L11 - L18).
6. REFER TO SHEETS L38 - L43 FOR SITE IRRIGATION SYSTEM PLANS.

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4. REFER TO SHEET L34 FOR TYPICAL LANDSCAPE PLANTING DETAILS.
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2. REFER TO SHEET L32 FOR TYPICAL LANDSCAPE PLANTING DETAILS.
3. REFER TO HARDSCAPE PLANS FOR LAYOUT OF SIDEWALKS AND PEDESTRIAN PAVEMENT (SHEETS L11-L18).
4. REFER TO SHEET L30 FOR TYPICAL LANDSCAPE PLANTING DETAILS.
5. CLOSER COORDINATE ALL TREE LOCATIONS WITH UTILITIES (EXISTING AND PROPOSED), SITE LIGHTING, AND OTHER SITE CONDITIONS. FIELD ADJUST LOCATIONS FOR PROPOSED TREES AS REQUIRED, AND NOTIFY OWNER IF THERE ARE SIGNIFICANT CONFLICTS.
6. ALL DISTURBED AREAS OF THE SITE THAT ARE NOT SHOWN FOR OTHER PLANTINGS ARE TO BE SODDED WITH PATRIOT BERMUDA SOD, PER NOTES ON SHEET L31.
7. REFER TO DETAIL A/L30 FOR PAVILION.
8. REFER TO DETAIL C/L32 FOR MID-LEVEL DECK.
9. REFER TO DETAIL D/L32 FOR RAISED PLANTER.
10. REFER TO SHEET L31 FOR PLANT MATERIAL SCHEDULE AND LANDSCAPE NOTES.
11. REFER TO SHEET L32 FOR TYPICAL LANDSCAPE PLANTING DETAILS.
12. REFER TO HARDSCAPE PLANS FOR LAYOUT OF SIDEWALKS AND PEDESTRIAN PAVEMENT (SHEETS L11-L18).
13. REFER TO SHEETS L38-L43 FOR SITE IRRIGATION SYSTEM PLANS.
1. REFER TO SHEET L31 FOR PLANT MATERIAL SCHEDULE AND LANDSCAPE NOTES.
2. REFER TO SHEET L32 FOR TYPICAL LANDSCAPE PLANTING DETAILS.
3. REFER TO SHEET L33 FOR SITE IRRIGATION SYSTEM PLANS.
4. REFER TO SHEET L34 FOR SITE LIGHTING AND OTHER SITE CONDITIONS.
5. AVOID ALL TREE LOCATIONS WITH UTILITY EXISTING AND PROPOSED, SITE LIGHTING, AND OTHER SITE CONDITIONS. FIELD ADJUST LOCATIONS AS REQUIRED AND NOTIFY OWNER IF THERE ARE SIGNIFICANT CONFLICTS.
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LANDSCAPE PLAN - C

BY REVISION DATE

VERTICAL PLAN SCALE:

HORIZONTAL PLAN SCALE:

APPROVED: DESIGNED

SURVEY LEAD ENGR.

RECOMMENDED:

CITY ENGINEER DESIGN MANAGER

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PROJECT NO. 148150

ELM CREEK WEST POND

DATE:

PAGE No.

SHEET No.              OF

FILE: DRAWING:

ATLAS PAGE NO:   01 & 08

PRELIMINARY PLANS

NOT FOR CONSTRUCTION

60%

ALABACK DESIGN ASSOCIATES

3202 E. 21ST ST, TULSA OK 74114 | PH: 918.742.1463

MADISON AVE.

BERMUDA SOD (TYP.)

PLAZA END PLANTER - PLANTING BED (EXT / SHT. L31)

REFER TO DETAIL B / SHEET L31 FOR DETAILED PLANTINGS

2 AGBC

REFER TO DETAIL C / SHEET L31 FOR DETAILED PLANTINGS

2 AGBC

1. REFER TO SHEET L31 FOR PLANT MATERIAL SCHEDULE AND LANDSCAPE NOTES.
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6. ALL DISTURBED AREAS OF THE SITE THAT ARE NOT SHOWN FOR OTHER PLANTINGS ARE TO BE SODDED WITH PATRIOT BERMUDA SOD, PER NOTES ON SHEET L31.
1. Refer to Sheet L31 for plant material schedule and landscape notes.
2. Refer to Sheet L32 for typical landscape planting details.
3. Refer to Sheet L37 for layout of sidewalks and pedestrian pavement (Sheets L11 - L18).
4. Refer to Sheets L11 - L18 for site irrigation system details.
5. Close coordination of tree locations with existing and proposed utilities, site lighting, and other site conditions is required. Notify owner if there are significant conflicts.
6. All disturbed areas of the site that are not shown for other plantings are to be sodded with Patriot Bermuda sod, per notes on Sheet L31.

**LANDSCAPE NOTES**

MATCH LINE - SHT L34

MATCH LINE - SHT L35

OWASSO AVE.

5TH PL.

Bermuda Sod

8 - AELM

1 - ECTUL

14 - NOAK

13 - SWOAK

1. Refer to Sheet L31 for plant material schedule and landscape notes.
2. Refer to Sheet L32 for typical landscape planting details.
3. Refer to Sheet L37 for layout of sidewalks and pedestrian pavement (Sheets L11 - L18).
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4. REFER TO SHEETS L38 - L43 FOR SITE IRRIGATION SYSTEM PLANS.
5. CLOSELY COORDINATE ALL TREE LOCATIONS WITH UTILITIES (EXISTING AND PROPOSED), SITE LIGHTING, AND OTHER SITE CONDITIONS. FIELD ADJUST LOCATIONS FOR PROPOSED TREES AS REQUIRED, AND NOTIFY OWNER IF THERE ARE SIGNIFICANT CONFLICTS.
6. ALL DISCARDED AREAS OF THE SITE THAT ARE NOT SHOWN FOR OTHER PLANTINGS ARE TO BE SODDED WITH PATRIOT BERMUDA SOD, PER NOTES ON SHEET L31.
NOTES:
1. ELECTRICAL Ducts for the Project's Needs Under the Assumption That P&G Will Deliver their Electrical Infrastructure, but older structures may need to be removed.
2. Existing Overhead Electric lines in the location will be removed and new Electric will be provided by P&G.

ELECTRICAL LEGEND
- Existing Overhead Electric line to be removed
- Existing Overhead Electric line to remain

60% PRELIMINARY PLANS NOT FOR CONSTRUCTION
02/21/19
NOTES:

1. PROVIDE AND INSTALL ALL EQUIPMENT SHOWN FOR LIGHTING CONTROL.
2. COORDINATE WITH PS&D SERVICE POLE FOR CONTROLLER AND BRIDGE. PROVIDE ALL ASSOCIATED CONDUIT, TERMINAL AND CONCRETE SURFACE REPAIR. PAY ANY REQUIRED SERVICE CHARGES TO ADEPT FOR ELECTRICAL SERVICE.
3. ALL CONDUIT SIZE TO BE 3/4" IRON, CONDUIT FROM CONTROL BOX TO LIGHT POLES TO BE 1/2" PVC BURIED 30" BELOW GRADE.
4. ALL WIRING FROM POLE BASIS TO FIXTURES TO BE 6/3 THINWALL UNLESS SHOWN OTHERWISE, PROVIDE GROUND FOR ALL LIGHTS (SEPARATE FROM PS&D)
5. MOUNT LIGHTING CONTROLLER ON 4" THICK CONCRETE PAD WITH BOTTOM EXTINGUISH CONDUIT.

LIGHTING CONTROLLER SCHEMATIC 1

ELM CREEK WEST POND
PROJECT No. 148150

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

LIGHTING CONTROLLER SCHEMATIC

1. LIGHTING CONTROLLER LC-1

DETAIL FOR CONTROLLER SERVICE

60% PRELIMINARY PLANS

CITY OF TULSA ENGINEERING SERVICES DEPARTMENT

DATE: 9/22/14

ARCHITECT: CITY OF TULSA

CONTRACTOR: DUNCAN LIGHTING

DESIGNER: BCE

CONTRACTOR: DUNCAN LIGHTING

CONTRACTOR: DUNCAN LIGHTING
PHOTOMETRIC READINGS:

1. The following readings are based off of a total LLF of 0.56.

- **Average**: 1.75 FC
- **Maximum**: 5.5 FC
- **Minimum**: 0.25 FC
- **Max/Min**: 35.15
- **Average/Min**: 7.0:1

NOTES:

1. The following readings are based off a total of 50 fixtures distributed as shown on the floor plan.
2. Reading are taken 15' away from the first fixture.
3. Full height: 0.0:1

---

**EML CREEK WEST POND**

**PROJECT No. 148150**

**PHOTOMETRIC 1**

<table>
<thead>
<tr>
<th>FIXTURE</th>
<th>LABEL</th>
<th>MANUFACTURER</th>
<th>CATALOG NO.</th>
<th>LAMP</th>
<th>LAMP NO.</th>
<th>LUMENS/LAMP</th>
<th>LIGHT LOSS FACTOR</th>
<th>WATTAGE</th>
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<tbody>
<tr>
<td>FF</td>
<td>F</td>
<td>HOLOPHANE</td>
<td>PTV47_PSO-40K</td>
<td>DISCRETE LED</td>
<td>1</td>
<td>12,881</td>
<td>0.950</td>
<td>139</td>
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</table>

60% PRELIMINARY PLANS NOT FOR CONSTRUCTION

45x45
PHOTOMETRIC READINGS:

1. THE FOLLOWING READINGS ARE BASED OFF OF A TOTAL LLF OF 35:

AVERAGE - 1.75 FC
MAXIMUM - 5.5 FC
MINIMUM - 0.25 FC
MAX/MIN - 35.15
AVERAGE/MIN - 7.01

NOTES:

1. THE FOLLOWING READINGS ARE BASED OFF A TOTAL OF 50 FIXTURES CONTRIBUTING TO 6500 LUMENS ON THE LOT.
2. TOOLS AND TRASH ARE ABOUT THE GRASS LEVEL.
3. PINGLE IS 1.5 FT.

FIXTURE | LABEL | MANUFACTURER | CATALOG NO. | LAMP | LAMP NO. | LUMENS/LAMP | LIGHT LOSS FACTOR | WATTAGE
--- | --- | --- | --- | --- | --- | --- | --- | ---
| | | HOLOPHONE | PTU27_P90_40K XX QL3 | DISCRETE LED | 1 | 12,881 | 0.950 | 139

60% PRELIMINARY PLANS MAY NOT MATCH DRAWINGS 4/26/23
**PHOTOMETRIC READINGS:**

1. The following readings are based on a total LUX of 90.

   - **AVERAGE:** 1.75 FC
   - **MAXIMUM:** 5.5 FC
   - **MINIMUM:** 0.25 FC
   - **MAX/MIN:** 35.15
   - **AVERAGE/MIN:** 7.0:1

**NOTES:**

1. The following readings are based on a total of 16 fixtures distributed as shown in the plan.
2. Bending and parts cut after the glass level.
3. Pull height 0.2 ft.

---

### Photometric Table

<table>
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<tr>
<th>FIXTURE</th>
<th>LABEL</th>
<th>MANUFACTURER</th>
<th>CATALOG NO.</th>
<th>LAMP</th>
<th>LAMP NO.</th>
<th>LUMENS/LAMP</th>
<th>LIGHT LOSS FACTOR</th>
<th>WATTAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>F</td>
<td>HOLOPHANE</td>
<td>PTU87_P90_40K</td>
<td>DISCRETE LED</td>
<td>1</td>
<td>12,881</td>
<td>6,950</td>
<td>139</td>
<td></td>
</tr>
</tbody>
</table>
PHOTOMETRIC READINGS:

1. The following readings are based off of a total LLT of 35.

   average - 1.75 FC
   maximum - 5.5 FC
   minimum - 0.25 FC
   max/min - 35.15
   average/min - 7.01

NOTES:

1. The following readings are base city a total of 35 fixtures distributed as shown on this plans.
2. Readings are taken 3' above the ground level.
3. Full height 5.5' LGR.

<table>
<thead>
<tr>
<th>FIXTURE</th>
<th>LABEL</th>
<th>MANUFACTURER</th>
<th>CATALOG NO.</th>
<th>LAMP</th>
<th>LAMP NO.</th>
<th>LUMENS/LAMP</th>
<th>LIGHT LOSS FACTOR</th>
<th>WATTAGE</th>
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</thead>
<tbody>
<tr>
<td>F</td>
<td>HOLOPHANE</td>
<td>PTUE3_P50_40K</td>
<td>DISCRETE LED</td>
<td>1</td>
<td>12,881</td>
<td>0.950</td>
<td>139</td>
<td></td>
</tr>
</tbody>
</table>
PHOTOMETRIC READINGS:

1. The following readings are based off of a total LFL of 35.
2. Average - 1.75 FC
3. Maximum - 5.5 FC
4. Minimum - 0.25 FC
5. MAX/MIN - 35.15
6. AVERAGE/MIN - 7.0:1

NOTES:

1. The following readings are based off a total LFL.
2. Emitter area is 0% of the total area.
3. Emitter area is 0% of the total area.

### Table: Photometric Readings

<table>
<thead>
<tr>
<th>FIXTURE</th>
<th>LABEL</th>
<th>MANUFACTURER</th>
<th>CATALOG NO.</th>
<th>LAMP</th>
<th>LAMP NO.</th>
<th>LUMENS/LAMP</th>
<th>LIGHT LOSS FACTOR</th>
<th>WATTAGE</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>HOLOPHANE</td>
<td>PTU27_P9_40K</td>
<td>DISCRETE LED</td>
<td>12,881</td>
<td>6,950</td>
<td>139</td>
<td></td>
</tr>
</tbody>
</table>
## RETAINING WALL NOTES

### SPECIFICATIONS:
Comply with the requirements of the 2009 Oklahoma Department of Transportation (ODOT) Standard Specifications for Highway Construction, except as modified by the plans.

### GENERAL NOTES:
- The double casing method of drilled shaft construction shall not be allowed. Temporary may be used as necessary.
- The geotechnical reports were prepared by Terracon for this project.

### TERRACON PROJECT NO.

<table>
<thead>
<tr>
<th>Project No.</th>
<th>Date</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>04170321</td>
<td>March 27, 2017</td>
<td>6th Street / Elm Creek West Pond</td>
</tr>
<tr>
<td>04170321</td>
<td>October 11, 2018</td>
<td>6th Street / Elm Creek West Pond Addition</td>
</tr>
</tbody>
</table>

### LOCATIONS OF SOIL BORINGS ARE SHOWN ON THE PLANS. THE GEOTECHNICAL REPORTS ARE AVAILABLE FOR REVIEW AT THE OFFICE OF BENHAM DESIGN, ONE WEST 3RD ST, SUITE 200, TULSA, OK 74103. ANY INFORMATION CONTAINED IN THE GEOTECHNICAL REPORTS SHOULD NOT BE CONSTRUED AS REPRESENTATIVE OF ALL FIELD CONDITIONS.

### EXCAVATIONS ARE ANTICIPATED TO EXTEND THROUGH SAND, CLAY, SOFT ROCK, AND HARD ROCK. EXCAVATIONS IN HARD ROCK WILL REQUIRE PNEUMATIC RAG HOSES.

### DRILLED SHAFTS WILL BEAR EITHER IN SAND OR SHALE/GAITE/ROCK. CONSTRUCTING PIERS IN THE SAND WILL REQUIRE THE USE OF MUD SLURRY. CONSTRUCTING DRILLED SHAFTS IN BEDROCK WILL REQUIRE THE USE OF A HEAVY DUTY DRILLING RIG EQUIPPED WITH A ROCK AUGER OR CORE BARREL.

### SPECIAL PROVISIONS:
Refer to ODOT Special Provision 510-34-v09 for cross-hole sonic logging (CSL) tubes and testing.

### DESIGN DATA:

#### DESIGN
Retaining walls have been designed in accordance with the requirements of AASHTO Standard Specifications for Highway Bridges 17th Edition.

#### MATERIAL
Concrete in retaining wall stems, footings, and grade beams shall be Class A, F.C. = 3000 psi.

Concrete in drilled shafts shall be Class AA, F.C. = 4,000 psi.

Reinforcing steel for retaining walls shall be Grade 60.

Backfill for retaining walls may be on site native material, existing fill or imported fill and shall classify as A-1, A-2-4 and A-3 soils per the AASHTO soil classification. In addition, on site native material, existing fill or imported fill shall meet the requirements of ODOT Section 705, Select Borrow.
ELEVATION - WALL A-2
SCALE: HORIZ. 1" = 30'
VERT. 1" = 5'

PLAN - WALL A-2
SCALE: 1" = 30'

WALL A-2

WALL A-2

WALL A-1

WALL B-1

WALL H

B-1

B-2

B-6

OWASSO AVE.

NORFOLK AVE.

STRA. 40+00 TO STA. 43+72.50

WALL A-2 BEGIN RETAINING

WALL A-2 END RETAINING

EXISTING ELEVATION ALONG PROPOSED WALL

BASE OF WALL ELEVATION 684.0

TOP OF WALL ELEVATION 691.0

 Loanser ENGR.
FIELD MGR.
PROJ. MGR.
CITY ENGINEER
DESIGN MANAGER

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

GUY ENGINEERING SERVICES, INC
6910 E. 14TH ST, TULSA OK 74112 / PH: 918.437.0282 / WWW.GUYENGR.COM

PROJECT No. 148150

ELM CREEK WEST POND

GENERAL PLAN AND ELEVATION
WALL A-2
STA. 40+00 TO STA. 43+72.50

DRAWING:
ATLAS PAGE NO: 01 & 08

CONSTRUCTION NOT FOR PRELIMINARY PLANS
60%
TYPICAL DRILLED SHAFT WALL SECTION

PIPE UNDERDRAIN DETAIL

NOTES:

RCB PENETRATION DETAIL
AT WALL B-1

NOTES:
1. 10' X 10' RC PENETRATION DETAIL, WALL M, FOOTINGS AND COPING.
2. RC PENETRATION DETAIL, WALL M, FOOTINGS AND COPING.
3. RC PENETRATION DETAIL, WALL M, FOOTINGS AND COPING.

TYPICAL CONSTRUCTION JOINT
RETAINING WALL
SEE GP&E FOR LOCATIONS

TYPICAL EXPANSION JOINT
RETAINING WALL
SEE GP&E FOR LOCATIONS
EXISTING RIGHT OF WAY

RECOMMENDED:
N/A

HORIZONTAL:

REMOVED

BE

SHALL

LIGHTS

SIGNS

PRIVATE

2.

PROFILE SCALE:

1"=30'

6910 E. 14TH ST, TULSA OK 74112 / PH: 918.437.0282 / WWW.GUYENGR.COM

CITY OF TULSA, OKLAHOMA

ELM CREEK WEST POND

PROJECT NO. 148150

DESTRUCTION PLAN

SHEET NO. 3 OF 3

DESTRUCTION LEGEND

REMOVE EXISTING
SANITARY SEWER MH

REMOVE EXISTING
2" WATERLINE

REMOVE EXISTING
SANITARY SEWER MH

REMOVE EXISTING
48" WATERLINE

REMOVE EXISTING
6" WATERLINE

REMOVE INLET AND CONNECTING PIPE

REMOVE FENCE

REMOVE EXISTING
12" WATERLINE

REMOVE EXISTING
6" WATERLINE

REMOVE EXISTING
SANITARY SEWER MH

REMOVE EXISTING
SANITARY SEWER MH

CUT AND PLUG
EXISTING WATERLINE

MATCH LINE SHEET 79

DESTRUCTION NOTES

1. REMOVE ALL TREES EXCEPT NOTED.

2. PRIVATE SIGNS AND LIGHTS FIXTURES SHALL BE REMOVED BY THE PROPERTY OWNER.

3. DEMOLITION OF EXISTING HOUSES SHALL BE DONE BY OTHERS.
PROFILE GRADE CRL & CL OF PAVEMENT 3/8"/FT. VARIES SOD 1'-6" STD. 6" BARRIER CURB & GUTTER (TYP.)

12" AGGREGATE BASE TYPE "A" COMPACTED TO 98% MODIFIED PROCTOR DENSITY.

SEPARATOR FABRIC AS SHOWN.

2'-0" SEPARATOR FABRIC

2 LIFTS - 2-1/2" SUPERPAVE, TYPE S3 (P6-64-22OK)

2.00% MAX

1 LIFT - 2" SUPERPAVE, TYPE S4 (P6-64-22OK) (INSOLUBLE)

1'-6" DRIVING LANE

8" SUBGRADE METHOD "B" TO BE COMPACTED TO 95% STD PROCTOR DENSITY.

TACK COAT

8" EXISTING GROUND

R/W

30'-0" 5'-0" SIDEWALK

LIMITS OF SOLID SLAB SODDING EXISTING

S. MADISON AVE.

STA. 10+82.75 TO STA. 13+82.31

STA. 13+82.31 TO STA. 20+18.21

S. NORFOLK AVE. & E. 5TH PLACE

STA. 30+95.48 TO STA. 32+59.34

STA. 36+15.58 TO STA. 37+50.00

S. OWASSO AVE.

STA. 39+52.00 TO STA. 47+10.19

TYPICAL SECTION #1

PROFILE GRADE

6" SUPERPAVE CURB & GUTTER (TYP.)

12" AGGREGATE BASE TYPE "A" COMPACTED TO 98% MODIFIED PROCTOR DENSITY.

SEPARATOR FABRIC

6" SUBGRADE METHOD "B" TO BE COMPACTED TO 95% STD PROCTOR DENSITY.

TACK COAT

12" AGGREGATE BASE TYPE "A" COMPACTED TO 98% MODIFIED PROCTOR DENSITY.

SEPARATOR FABRIC AS SHOWN.

BACKFILL NOTE: this area is to be backfilled and compacted to 95% std proctor density. cost to be included in cost of curb. typical both sides.

TYPICAL SECTION #2

PROFILE GRADE

6" SUPERPAVE CURB & GUTTER (TYP.)

12" AGGREGATE BASE TYPE "A" COMPACTED TO 98% MODIFIED PROCTOR DENSITY.

SEPARATOR FABRIC

6" SUBGRADE METHOD "B" TO BE COMPACTED TO 95% STD PROCTOR DENSITY.

TACK COAT

12" AGGREGATE BASE TYPE "A" COMPACTED TO 98% MODIFIED PROCTOR DENSITY.

SEPARATOR FABRIC AS SHOWN.
<table>
<thead>
<tr>
<th>STR NO.</th>
<th>DESIGN</th>
<th>NUMBER OF GRATES</th>
<th>NUMBER OF ADD'L THROATS</th>
<th>TOP OF CURVE</th>
<th>TOP OF GRATES</th>
<th>FLOWLINE</th>
<th>INNER STR.</th>
<th>LON. SL. AT INLET</th>
<th>CROSS SL. AT INLET</th>
<th>CLOSING FACTOR</th>
<th>DGD</th>
<th>MZV</th>
<th>DMM</th>
<th>DATE</th>
<th>NOT USED</th>
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<tr>
<td>R</td>
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<td>6.10</td>
<td>7.11</td>
<td>4/3/19</td>
<td>A 100.00</td>
</tr>
</tbody>
</table>

**NOT USED**

**SUMMARY OF PROPOSED INLET DESIGN**
EXISTING WATERLINE TO BE REMOVED/ABANDONED

EXISTING WATERLINE TO REMAIN

EXISTING WATERLINE

PROPOSED WATERLINE
STA 47+23.94, 7.85' RT.
EXISTING 4' I.D. MANHOLE
TR = 690.70
FL = 681.76

STA 47+23.95, 6' LT. (CRL OWASSO)
CONSTRUCT 4' I.D. MANHOLE
TR = 690.80
FL = 681.61 (N,S)
FL = 686.80 (W)

STA 47+23.95, 6' LT. (CRL OWASSO)
CONSTRUCT 4' I.D. MANHOLE
TR = 691.84 (N,S)
FL = 688.82 (R)

CONTRACTOR TO INSTALL WATER-TIGHT LID FOR THIS MANHOLE.

CONTRACTOR TO INSTALL WATER-TIGHT LID FOR THIS MANHOLE.

12'-0"
125 LF @ 0.35%
366.5 LF @ 0.35%
12'-0"
25'-0"

THIS DOCUMENT IS PRELIMINARY IN NATURE AND IS NOT A FINAL SIGNED AND SEALED DOCUMENT.
CONSTRUCTION NOTES

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS EXCEPT WHERE EXCEEDED BY THESE DRAWINGS OR AS PRE-APPROVED BY THE CITY.

2. CLASS "C" CONCRETE LEVELING PAD SHALL BE PLACED ON FIRM, STABLE, COMPACTED SOIL.

3. AT STEP-UP LOCATIONS THE CONTRACTOR SHALL ADJUST THE LOCATION OF THE STANDARD WALL UNITS TO ENSURE A LINEAR ALIGNMENT ALONG THE FRONT FACE OF THE WALL.

4. CONTRACTOR SHALL FIELD ADJUST PLACEMENT OF WALL UNITS TO ENSURE A MINIMUM WIDTH OF SIDEWALK AS SHOWN.

5. FILTER FABRIC, DRAINAGE, AGGREGATE, BOND ADHESIVE, AND EXPANSION MATERIAL SHALL NOT BE MEASURED, AND SHALL BE CONSIDERED INCIDENTAL TO THE INSTALLATION OF THE WALL.
NOTE: FINAL STRUCTURAL DESIGN WILL BE PROVIDED BY AN OKLAHOMA PROFESSIONAL ENGINEER SUPPLYING SIGNED AND SEALED PLANS AND CALCULATIONS.

SPECIFICATIONS

CONCRETE:  CLASS II CONCRETE WITH DESIGN STRENGTH OF 4500 PSI AT 28 DAYS. UNIT IS OF MONOLITHIC CONSTRUCTION AT FLOORS AND FIRST STAGE OF WALL WITH SECTIONAL PIPER TO REQUIRED SPACING. COMBINED ASSEMBLY WEIGHT AS INDICATED IN SPECS.

REINFORCEMENT: GRADE 60 REINFORCED STEEL BAR CONFORMING TO AGMA AS20 OR REQUIRED CENTERS OF EQUABLE BAR SPACING & PLACEMENT SHALL COMPLY WITH THE LATEST ACI STANDARDS FOR PRECAST CONCRETE LIFTING INSERTS SHALL BE INSTALLED PER MFG'S REQUIREMENTS.

STEEL: ALL STEEL SHALL BE AR8 STEEL HEADED IN ACCORDANCE TO AWS D1.1. ALL STEEL SHALL BE HOT-DIPPED GALVANIZED AFTER FABRICATION.
1. Park USA's proprietary TrashTrooper unit uses a floatable collection bar screen to capture unwanted floatable pollutants from the 10'x10' RCB before outflow into the pond. Separated effluent exits the TrashTrooper and enters the wet pond, leaving debris behind inside the TrashTrooper.

CAPACITY NOTES:
2. The TrashTrooper was sized based on the existing 108" pipe capacity of 858 cfs per September 2018 correspondence with Swift Water Resources Engineering.
3. The TrashTrooper's rim elevation is 689.50, approximately 0.50 ft above the peak 100-year WSE of 689.0 in the downstream pond. Because of the downstream WSE in the pond, stormwater will overflow the rim of the TrashTrooper during storms larger than the 100-year event and enter Owasso Avenue, which has a pavement elevation of approximately 687.3 adjacent to the TrashTrooper.
4. The grate capacity for a range of clogging percentages is shown in Table 1 and Figure 1. The grate's capacity is defined as the flow producing an HGL at ground inside the TrashTrooper. The TrashTrooper is not expected to limit the existing system capacity below 858 cfs until it becomes approximately 60% clogged. At this point, further clogging of the grate will gradually reduce flow capacity through the TrashTrooper and increase the risk of flooding in the upstream storm drain system.

MAINTENANCE NOTES:
5. A detailed TrashTrooper operations and maintenance plan is on SHT TS3. This system will be maintained by City staff. The manufacturer recommends a visual inspection 2-3 days after major storm events (over 1" of rainfall) in addition to regular monthly inspections, and recommends removal of trash and sediment after it reaches 25% of the box diameter.
6. The TrashTrooper is located adjacent to the Owasso Ave curb. Per correspondence between Guy Engineering and the City of Tulsa, this location allows for convenient access by the City's vacuum truck hose for cleaning out sediment and trash. If needed, City staff can enter the TrashTrooper through the hatchway and stand on the horizontal walkway and grate to remove larger debris.

### Table 1: TrashTrooper Capacity Calculations

<table>
<thead>
<tr>
<th>Grate Clogging</th>
<th>Front Orifice</th>
<th>Top Orifice</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Area (sq ft)</td>
<td>Centroid</td>
</tr>
<tr>
<td>0%</td>
<td>138.9</td>
<td>679.5</td>
</tr>
<tr>
<td>10%</td>
<td>125.1</td>
<td>680.0</td>
</tr>
<tr>
<td>20%</td>
<td>111.2</td>
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<td>30%</td>
<td>97.3</td>
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<tr>
<td>40%</td>
<td>83.4</td>
<td>681.5</td>
</tr>
<tr>
<td>50%</td>
<td>69.5</td>
<td>682.0</td>
</tr>
<tr>
<td>60%</td>
<td>55.6</td>
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</tr>
<tr>
<td>70%</td>
<td>41.7</td>
<td>683.0</td>
</tr>
<tr>
<td>80%</td>
<td>27.8</td>
<td>683.5</td>
</tr>
<tr>
<td>90%</td>
<td>13.9</td>
<td>684.0</td>
</tr>
<tr>
<td>100%</td>
<td>0.0</td>
<td>684.5</td>
</tr>
</tbody>
</table>

### Figure 1: TrashTrooper Capacity vs. Clogging
B. Quarterly Inspections

1. Monthly maintenance is to be conducted in heavy weather months and after any major climate event, every 1 inch in 24 hours as a minimum guideline depending on non-structural components of the site.
2. During normal climate conditions, observe and maintain the storage tank, 2-3 days after the wettest rain.
3. Replace or repair leaking or damaged parts, replace or repair damaged or missing parts. This is the most important maintenance requirement. Failure to maintain and detect leaks from the system may cause leaks to be unrepairable or to leak indefinitely.
4. At least quarterly or more frequently if there is a large amount of floating debris washing into the system, check the floating collection screen cleaning should occur when reasonable debris washes 1/4".
5. Maintain good operating conditions. For example, if a trash collector is obstructed, then reasonable debris washes 1/4".
6. Close access gates and secure.

C. Safety and Environmental Considerations

1. All normal safety precautions should be taken with this equipment to prevent accidents and fires.
2. Gates should be kept to keep the area of the collection system to prevent accidents.
3. The operator of the TrushTrooper® system must be trained in the appropriate operation and maintenance procedures. Failure may result in property damage.
4. SAFETY AND ENVIRONMENTAL PROTECTION ARE THE RESPONSIBILITY OF THE USER. PARK ENVIRONMENTAL, LTD. ASSUMES NO LIABILITY FOR USE OF THIS SYSTEM OR FOR USE OUTSIDE THE PARAMETERS FOR WHICH IT IS DESIGNED.
STA 32+00 TO STA 34+00

CROSS SECTIONS - NORFOLK & 5TH PLACE

FG=684.66

FG=685.07

FG=685.56

N = 426,101.97
E = 2,565,230.60
STA 32+74.32 6' LT.
CONSTRUCT 4' I.D. MANHOLE
TR = 684.40,
FL (E,N) = 680.93 (24"

N = 426,102.39
E = 2,565,249.59
STA 32+00.00 13' RT.
CONSTRUCT STD CICI DES 2 (STD)
TG = 684.13,
FL = 681.02 (24"

19 LF - 24" RCP @ 0.50%
Q100 = 10.23 CFS
QCAP = 15.98 CFS

N = 426,102.39
E = 2,565,249.59
STA 32+74.32 15' RT.
CONSTRUCT STD CICI DES 2 (STD)
TG = 684.13,
FL = 681.02 (24"

19 LF - 24" RCP @ 0.50%
Q100 = 10.23 CFS
QCAP = 15.98 CFS

South Norfolk Avenue

Pres. R/W

Ex. WL

Ex. SS

Ex. GAS

24" RCP

48" RCP

J

N = 426,101.97
E = 2,565,230.60
STA 32+74.32 6' LT.
CONSTRUCT 4' I.D. MANHOLE
TR = 684.40,
FL (E,N) = 680.93 (24"

19 LF - 24" RCP @ 0.50%
Q100 = 10.23 CFS
QCAP = 15.98 CFS

N = 426,102.39
E = 2,565,249.59
STA 32+00.00 13' RT.
CONSTRUCT STD CICI DES 2 (STD)
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V:\16-1050E Elm Ck West Pond, 148150-1, COT\CIV3D\PLANS\1050-Cross Section.dwg

Wednesday, April 24, 2019 11:08:32 AM

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